

Final report

OWMC

**Ontario
Waste Management
Corporation**

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MM Marshall
Macklin
Monaghan

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ASSOCIATES LTD.

SITE SELECTION PROCESS
PHASE 3B: SELECTION OF CANDIDATE SITES

Land Use

**Marshall Macklin Monaghan Limited
and
Leon Kentridge Associates Limited**

November, 1984

LEON KENTRIDGE
ASSOCIATES LIMITED
PLANNING CONSULTANTS

November 16, 1984
84006

Dr. B.D. Mitchell
Ontario Waste Management Corporation
2 Bloor Street West
11th Floor
Toronto, Ontario
M4W 3E2

Dear Dr. Mitchell

Re: Site Selection Process
Phase 3B: Selection of Candidate Sites
Land Use

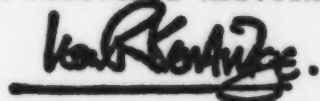
We are pleased to submit the Phase 3B: Selection of Candidate Sites - Land Use technical report as part of the OWMC site selection process.

This report was jointly produced by Leon Kentridge Associates Limited and Marshall Macklin Monaghan Limited.

We look forward to your comments.

Yours very truly

LEON KENTRIDGE ASSOCIATES LIMITED



Leon R. Kentridge, MRAIC, MCIP

LRK/cdt
Encl.

PHASE 3B LAND USE REPORT ERRATA

Appendix L, Maps K-53 and
K-55 - Replace VR - Village Residential designation
with
HC - Highway Commercial designation
on both maps and legends

MARSHALL MACKLIN MONAGHAN LIMITED
LEON KENTRIDGE ASSOCIATES LIMITED
November, 1984

TABLE OF CONTENTS

	<u>Page No.</u>
LETTER OF TRANSMITTAL	
EXECUTIVE SUMMARY	1
1. INTRODUCTION	1
Scope of Work	1
Site Selection Process	3
Site Selection Goals and Objectives	3
Selection of Factors	8
Summary of Factors	10
Summary of Data Collection Program	11
Ranking of Factors	11
2. IDENTIFICATION OF SITE AREAS	15
Introduction	15
Factors and Factor Documentation	16
Data Collection	24
Ranking of Factors	30
Application to Site Selection Process	33
Area A-1 Land Use Study	34
3. IDENTIFICATION OF POTENTIAL SITES	37
Introduction	37
Factors	39

TABLE OF CONTENTS (continued)

	<u>Page No.</u>
Data Collection and Analysis	42
Ranking of Factors	43
Rating of Site Areas	49
Application to the Site Selection Process	51
4. IDENTIFICATION OF CANDIDATE SITES	53
Introduction	53
Factors and Indicators	54
Data Collection and Analysis	64
Ranking of Factors	69
Ranking of Access Routes	76
Rating of Potential Sites	89
Conclusions and Recommendations	109
Bibliography	111

LIST OF TABLES

		<u>Page No.</u>
1.1	Summary of Land Use, Land Use Planning and Land Ownership Factors	13
2.1	Identification of Site Areas/Summary of Factor Classification	32
3.1	Identification of Potential Sites/Summary of Factor Classification	44
3.2	Identification of Potential Sites/Summary of Rating of Site Areas	50
4.1	Identification of Candidate Sites/Summary of Factors and Indicators	55
4.2	Identification of Candidate Sites/Summary of Factor Indicator Classification	71
4.3	Identification of Candidate Sites/Summary of Rating of Siting Options	90
4.4	Identification of Candidate Sites/Summary of Siting Options by Level of Constraint	99

LIST OF MAPS

K-1 and K-2	Area A-1 Land Use Study (in Technical Data Map Portfolio)
K-3 to K-18	Identification of Site Areas (in Technical Data Map Portfolio)
K-19	Identification of Potential Sites (following page 44)
K-20 to K-55	Identification of Candidate Sites (in Appendix L)

APPENDICES

CHAPTER 2 - IDENTIFICATION OF SITE AREAS

- APPENDIX A - Identification of Site Areas Factors
- APPENDIX B - Identification of Site Areas Factor Ranking
- APPENDIX C - Dr. Chant's Letter of July 8, 1983 to Municipalities
- APPENDIX D - Meetings with Municipalities
- APPENDIX E - Data Sources

CHAPTER 3 - IDENTIFICATION OF POTENTIAL SITES

- APPENDIX F - Identification of Potential Sites Factors
- APPENDIX G - Identification of Potential Sites - Initial Site Area Screening
- APPENDIX H - Identification of Potential Sites - Rating of Site Areas

CHAPTER 4 - IDENTIFICATION OF CANDIDATE SITES

- APPENDIX I - Identification of Candidate Sites Factors
- APPENDIX J - Identification of Candidate Sites - Data Summary Tables

- APPENDIX K - Area A-1 Land Use Study
- APPENDIX L - Identification of Candidate Sites - Potential Site Maps

EXECUTIVE SUMMARY

PURPOSE OF THE REPORT

During Phase 3B of the Ontario Waste Management Corporation's (OWMC) Facilities Development Process, Marshall Macklin Monaghan Limited and Leon Kentridge Associates Limited were responsible for examining the land use, land use planning, and land ownership aspects of the human environment in the process which narrowed the candidate areas identified for special waste treatment and disposal facilities to candidate sites by the end of Phase 3B. This report presents the results of this examination and is in support of the technical report - Site Selection Process - Phase 3B: Selection of Candidate Sites - Site Selection, prepared by M.M. Dillon Limited.

SCOPE AND METHOD

All existing and future land uses were examined with the exception of agricultural, recreational and institutional land uses. The latter uses, in addition to aspects such as population density and the natural environment, were excluded as these matters were examined by other consultants responsible to OWMC. The three primary land use types examined were industrial, commercial and residential. The land use factors developed and the data collected and analyzed by the land use consultant, were based on these three land uses (page 2).

Land use planning policies of provincial, regional and local governments and their agencies were also examined, with the exception of environmental protection and flood control policies, which were reviewed by other consultants to OWMC (page 2).

Land ownership matters examined included the extent of public land holdings, the pattern of land parcel sizes and shapes, and land values (page 2).

In narrowing candidate areas to candidate sites, it was necessary to devise an approach which would allow the land use, land use planning and land ownership characteristics of the candidate areas to be considered in an organized and efficient manner. This information had to be considered together with all of the other environmental, technical and economic considerations which contributed to the identification of candidate sites.

In order to do this, a three stage site selection process was developed (page 3). At each stage a progressive refinement of the search process led to the use of more detailed base mapping and more precise data. The three stages of the site selection process during Phase 3B were:

- . identification of site areas - through a process called "constraint mapping" (Chapter 2)
- . identification of potential sites - through a process called "screening of site areas" (Chapter 3)
- . identification of candidate sites - through a process called "initial comparative evaluation" (Chapter 4)

During each of the three stages, a set of factors was developed which was used to organize the data collection and provide a method of analysis. These factors were developed in response to the goals and objectives established for the site selection process (pages 3-8). The three goals of the process in order of priority were:

- . To minimize risk to human health
- . To minimize environmental impact
- . To minimize financial cost to OWMC

It was also important that there be consistency among the factors employed during each of the three stages (page 8). In this regard, factors were grouped under the following headings:

- . Industrial
- . Residential
- . Commercial
- . Other Uses/Designations
- . Land Ownership
- . Community Character and Lifestyle

Table 1.1 of the report summarizes the factors employed under these headings during each stage of the site selection process (page 13). Detailed factor sheets in Appendices A, F and I outline the definition, significance and rationale of each factor used during the three stages of the process.

Following the selection of factors, a data collection program was undertaken during each stage in order to describe and measure each factor for the geographic area under examination (page 11).

The following is a description of the process employed during each stage of the process.

Identification of Site Areas

The data collection program during this phase was predicated on two essential assumptions (page 15):

- . that 1:50 000 scale base mapping would be employed.
- . that secondary source data would be used.

These assumptions meant that land use field investigations would not be relied upon during this phase in the analysis. It was therefore decided that municipal official plans would be used as the basis for identifying the occurrence of the three primary land use categories: industrial, commercial and residential (page 16).

In addition, a distinction was made between lands designated for these uses which are vacant, built upon, or currently serviced and under development. The distinction between these sub-categories was based upon aerial photography interpretation and sources provided by municipal planning departments, and supplementary roadside investigations to confirm the status of development.

It was, however, concluded that certain clusters of residential development in rural areas which, although not specifically designated for residential use, should be identified due to the relative risks and potential impacts associated with facility siting near such clusters. An additional factor, Residential Development in Rural and Agricultural Areas, was therefore added (page 18).

A review of municipal official plans and provincial planning documents revealed several other possible factors relevant to the land use analysis (pages 18-23). The additional factors which were developed on this basis were:

- . Rural Designations in Official Plans
- . Provincial Planning Areas
- . Residual Lands in Regional Official Plans

A final factor, Publicly Owned Lands, was also added to take account of this aspect of land ownership (page 23).

The data collection program undertaken to describe and measure these factors consisted of the following elements (pages 24-30):

- . Attendance at a series of meetings which municipal representatives, and provincial and federal agencies in order to obtain the necessary secondary source information.
- . Review of 1:30 000 1983 aerial photography provided by the Ontario Ministry of Natural Resources in order to determine existing land uses.

Following data collection, one factor, Residual Lands in Regional Official Plans, was dropped from further consideration due to the lack of data emerging.

Following the completion of these two steps, the factors were assessed with regard to the risk and potential impact associated with facility siting (page 31). Based upon this assessment, the site selection team made a recommendation to OWMC on which factors should be utilized as exclusionary in the constraint mapping process. Mapping of the occurrence of these factors was also provided to the site selection team.

Identification of Potential Sites

The purpose of this stage of the process was to screen the 152 site areas which emerged from the constraint mapping process in order to identify a relatively small number of potential sites suitable for comparison (page 37). This screening was undertaken in two steps. The first step was undertaken based upon the data and factors compiled during constraint mapping. This resulted in the elimination of 62 site areas from further consideration. Appendix G - Initial Site Area Screening - contains a table of the 5 site areas excluded from further consideration because of significant land use - related constraints.

Following this first step, the 90 remaining site areas were examined more thoroughly through roadside investigations, with data recorded on maps at a scale of 1:10 000 (page 38). This led to the development of a series of factors based upon existing land uses in addition to official plan designations (pages 39-42).

The foregoing resulted in the following factors for industrial, residential and commercial uses:

- . Existing uses in the site area
- . Future uses in the site area
- . Existing uses in the site vicinity
- . Future uses in the site vicinity

As in the previous stage, land use factors related to Rural/Agricultural Land Use Designations, Provincial Planning Areas and Publicly Owned Lands were also utilized. An additional factor entitled Proximity to Residential

Communities was also developed to account for clusters of residential development located beyond the site vicinity, but within the potential impact area of OWMC facilities.

The data collection and analysis program involved roadside investigations with land uses mapped on 1:10 000 scale base mapping. This information was cross-checked against 1:10 000 (1978) and 1:30 000 (1983) aerial photographs of the site areas. Data previously collected from municipal planning departments were also utilized for official plan, zoning, development application, and other information, and augmented through additional contacts with municipal staff where necessary (pages 42-43)

Following the completion of these two activities, the land use factors were ranked by the land use consultants according to an assessment of each factor relative to risk and impact. The results of this ranking are summarized in Table 3.1 on page 44. Also, the data which emerged under each factor were ranked according to whether the data represents a low, moderate or high degree of constraint to facility siting.

The final task of this stage of the process was to rate the 90 site areas from a land use perspective on the basis of the factors, data collection and factor ranking. Each site area was rated as most suitable, moderately suitable or least suitable for facility siting. The rating categories are defined on pages 47 and 48. The results of this rating are summarized in Table 3.2 on page 50. The rating and mapping of site areas were provided to the site selection team in order to produce the list of 16 potential sites for the initial comparative evaluation stage (page 49). The land use consultants participated in the selection of potential sites.

Identification of Candidate Sites

The purpose of this stage of the process was to explore the relative differences among the 16 potential sites identified during the previous stage in order to identify a smaller number of candidate sites.

The factors employed during this stage differed from the previous stage due to the following additional data collection activities being undertaken (pages 54-55):

- . The potential access routes to each site were examined to determine the possible land use impacts resulting from the transportation of hazardous wastes over local and regional access routes.
- . Land values were considered as a contributing factor to the costs and operations of the facilities.
- . Additional detailed work was undertaken on land ownership on and around each site so that the pattern and nature (public vs. private) of land ownership could be determined.

The factors and indicators used during this stage were very similar to those used in the previous stage. The new factors and indicators added in response to the considerations outlined above were (pages 55-64):

- | | |
|--|--|
| . Land Acquisition | - Land Value |
| | - Land Fragmentation |
| | - Land Ownership |
| . Existing Community Character and Lifestyle | - Land Use Pattern |
| . Residential, Commercial and Industrial Uses, Existing and Future | - Distance through developed/designated areas along local access roads |

Data collection during this stage consisted of roadside investigations on the sites, site vicinities and access roads to each potential site, plus rechecking of municipal data for official plan, zoning and development application information in these study areas (pages 64-69).

Following data collection, factors were ranked in a manner similar to that undertaken during the previous two stages (pages 69-71). In addition, values were assigned to each factor describing, for example, the number of residences

on site which represent a comparatively low or high siting constraint (pages 72-76). Several factors were also dropped from further use due to a lack of data, or because the data which emerged were not significant in comparing sites (pages 69-70).

Access route options to each site were also ranked in order that the preferred access routes would be selected as part of the definition of the 17 siting options (pages 76-88).

The final step in this stage was the rating of the 17 siting options identified by OWMC, the results of which are presented under the Main Findings section of the Executive Summary (pages 89-109).

This technical report and the Technical Data Map Portfolio produced under separate cover, also present the results of a secondary analysis undertaken by the land use consultants since the completion of Phase 3A. This analysis was undertaken to assist Gartner Lee Associates Limited in a re-examination of Area A1 in southern Ontario to identify suitable candidate areas. This study was commissioned as a result of the limited amount of publicly owned and industrially designated lands present in the original 19 candidate areas announced in the Phase 3 Interim Report in May, 1983. The results of this study are presented in the Technical Data Map Portfolio, and the study methodology is presented in Appendix K. The results of this re-examination were publicly announced by OWMC in January, 1984.

PREMISES AND POSTULATES

The geographic limits of the investigations were the extent of the candidate areas, site areas and potential sites identified during the three progressive site selection stages. In addition, the site selection team, which included the land use consultants, defined a site vicinity around each site area and potential site, and access routes to potential sites.

The main postulate which the land use consultants developed as this assignment proceeded concerned the matter of land use compatibility between the proposed treatment facilities and adjacent land uses. Of the three primary

land use categories examined (residential, commercial and industrial), industrial uses were determined to be the most compatible and residential uses the least compatible with OWMC facilities. This is because the incinerator and the physical/chemical treatment plant are largely industrial in nature. The engineered landfill facility is not as clearly industrial in nature; however, certain characteristics of this facility make it similar to an industrial use.

STATUS OF DATA

During the constraint mapping process undertaken for the identification of site areas, secondary source data collected primarily from federal, provincial, regional and local government agencies were utilized. Of particular importance was information gathered through a series of meetings with local and regional municipalities and provincial and federal agencies. A limitation on this information was that much of it was not in published form and it could not be cross-checked with other sources. Municipal documents such as official plans and zoning by-laws are also subject to amendment at any time, and in many cases, it was necessary to utilize draft official plans not yet adopted or approved, but reflecting current municipal policy directions. Appendix E outlines the status of the official plans used in the study.

During constraint mapping, the location of clusters of rural residential uses was determined from aerial photography and 1:50 000 base mapping employed in this stage of the process, and cross-checked through selected sample roadside field investigations. This was not an entirely reliable method of determining the number of residences in such clusters due to data obsolescence. Where there was any doubt, as to whether the group of dwellings met the minimum cluster size requirement, the clusters were retained for further consideration, and were subjected to further roadside investigations in later stages of the process if located in proximity to site areas.

During the identification of potential sites and candidate sites, roadside field investigations were carried out to provide more reliable land use information. Land ownership information was collected primarily from municipal assessment rolls and augmented by registry office searches where

deemed necessary. The municipal assessment records utilized were based upon information collected in 1982. The maps which accompany those assessment records vary in their date, from the early 1970's to the present. Both of these data sources are, therefore, not completely up-to-date, but are the best available.

MAIN FINDINGS

The main findings of each stage in the site selection process are outlined below.

Identification of Site Areas

Of the 13 factors developed during this stage, the following four factors represent the greatest siting constraints:

- . Residential, Lands Designated in Official Plans, Built Upon
- . Residential, Lands Designated in Official Plans, Serviced and Vacant
- . Commercial, Lands Designated in Official Plans, Built Upon
- . Residential Development in Rural and Agricultural Areas

Table 2.1 (page 32) presents the ranking of the 12 factors used during this phase. The thirteenth factor, Residual Lands in Regional Official Plans, was dropped from consideration because of a lack of data.

Maps K-3 to K-18 in the Technical Data Map Portfolio present the mapped results of this work.

Identification of Potential Sites

During this stage, two levels of screening were undertaken by the site selection team. During the initial screening, land use reasons contributed to the exclusion of five site areas in whole or in part. These reasons are summarized in Appendix G.

During the second level of screening, the land use consultants undertook a rating of the 90 site areas still under consideration. Each of these site areas was placed into one of three categories: most suitable, moderately suitable and least suitable for facility siting. This rating is summarized in Table 3.2 on page 50 and was provided to the site selection team in order to identify potential sites.

Identification of Candidate Sites

The land use consultants undertook a rating of the 17 siting options examined during this stage from a land use perspective which was based upon the factors, data collection and factor ranking undertaken. This rating organized the siting options into three categories: most suitable, moderately suitable and least suitable for facility siting. The list of siting options does not suggest any preference within categories. This rating is as follows:

SUMMARY OF RATING OF SITING OPTIONS

<u>Most Suitable</u>	<u>Moderately Suitable</u>	<u>Least Suitable</u>
LF-2N/P1-1A1	LF-4N	LF-2N/P1-1N
LF-10W	LF-4N/P1-1N	LF-2N/P1-13N
LF-10W/P1-2W	LF-11W	LF-4N/P1-13N
LF-1C/P1-18E	LF-11W/P1-2W	
LF-1E/P1-27E	LF-1E	
LF-3E	LF-3C	
	LF-8C	
	LF-9C	

CONCLUSIONS AND RECOMMENDATIONS

In selecting candidate sites for examination during Phase 4A, OWMC should attempt to select as many of the sites judged to be most suitable from a land use perspective by the land use consultants, when considered with the rankings of other consultants using other factors.

During Phase 4A and prior to selecting a preferred site, further detailed comparison of the selected candidate sites should be undertaken. In particular, land use surveys of lands farther afield from each site and along access roads should be undertaken. During Phase 3B, discussions with local residents and municipal officials to obtain their views on specific site areas or potential sites was not possible. During Phase 4A, these discussions should occur in order that the views of these groups on perceived land use impacts around each candidate site can be obtained. Also, municipal officials should be further consulted on possible conflicts between municipal planning policies and the proposal to locate hazardous waste treatment and disposal facilities on the candidate sites selected.

1. INTRODUCTION

This report describes the work undertaken on behalf of the Ontario Waste Management Corporation (OWMC) in assessing land use, land use planning and land ownership matters relevant to the OWMC site selection process. A previous technical report, Land Use Planning Factors Used in the Selection of Candidate Areas, described the land use planning factors which contributed to the identification of candidate areas, as announced in OWMC's Phase 3 Interim Report, May, 1983. This report presents the work undertaken since the identification of 19 candidate areas in May, 1983, and is in support of the Site Selection Process - Phase 3B: Selection of Candidate Sites - Site Selection report prepared by M.M. Dillon Ltd. which reports on the overall site selection process.

SCOPE OF WORK

The scope of this portion of the study process was to examine in an appropriate level of detail three aspects of land use:

- . land use
- . land use planning
- . land ownership

The first aspect examined was land use. Land use studies typically involve an examination of all human and natural uses of land.

In this study, a multi-disciplinary team of consultants was assembled to undertake the site selection process with each firm assigned specific responsibilities. This resulted in a somewhat narrower scope of study for the land use consultants.

This narrower scope of study meant that three principal land use categories emerged which were the responsibility of the land use consultants:

- . residential
- . industrial
- . commercial

The land uses not considered in this report, but addressed by other members of the consulting team, are:

- . agriculture
- . community and recreation facilities
- . natural and environmental areas
- . transportation and utilities

The second aspect examined was land use planning policies. The report describes the manner in which the land use planning policies of municipal and provincial governments were taken into account in the site selection process. In this instance, all such planning policies were considered, with the exception of environmental and flood plain policies which were reviewed by another consultant.

The third aspect considered by this report is land ownership. This has involved an examination of the pattern of land ownership, including the size and shape of parcels and whether lands are held by public or private interests. The value of land holdings in the study area was also examined.

SITE SELECTION PROCESS

The OWMC Phase 3 Report describes in detail the site selection process which was adopted. The three stages of this process during Phase 3B were:

- . identification of site areas - through a process called "constraint mapping"
- . identification of potential sites - through a process called "screening of site areas"
- . identification of candidate sites - through a process called "initial comparative evaluation".

Between each of these stages (and between the preceding and subsequent stages of Phases 3A and 4A) there was a progressive refinement of the search process in terms of the geographic area under consideration, the scale of mapping, and the data and factors employed in the analysis of data.

During the first stage, identification of site areas, information was plotted on maps at a scale of 1:50 000 using exclusively secondary source information. During the following two stages, base mapping primarily at a scale of 1:10 000 was employed, and information obtained from secondary source material was augmented by roadside land use surveys and other primary source information. The 1:50 000 scale mapping continued to be used in the latter stages for access route assessment and ranking.

SITE SELECTION GOALS AND OBJECTIVES

Many of the goals and objectives adopted to guide the site selection process are relevant to the aspects of land use, land use planning and land ownership considered during this study. In order of priority, the three goals for the process, under which more specific objectives were developed, were:

- . To minimize risk to human health
- . To minimize environmental impact
- . To minimize financial costs to OWMC

The specific objectives relevant to land use, land use planning and land ownership are discussed below. Reference should be made to the Appendix to the Phase 3 Report, Facilities Development Process, OWMC, for the complete list of the site selection objectives.

MINIMIZE RISK TO HUMAN HEALTH

The following objectives were considered significant:

- . To site facility components to minimize the number of people who might be exposed, and the duration of that exposure, to contaminants in the event of a release.

This objective had the greatest relevance to land use, land use planning and land ownership. The three main land use categories under consideration, residential, industrial and commercial, all involve concentrations of people who could, for all or part of the day, be exposed. The variations in population concentrations in proximity to facilities and the length of visit or occupancy in each land use and in different locations will bear greatly on the selection of a site.

- . To site facility components to minimize the potential for exposure of groups within populations who are sensitive to exposure and/or are difficult to evacuate.

Populations with these characteristics may be concentrated in one specific land use, making the identification of such a land use significant.

- . To site facility components to minimize the number of people who might be exposed, and the duration of that exposure, to contaminants along access routes to the site(s) in the event of a release.

This objective is a parallel objective to the first one discussed. It requires that the same land use information be examined along access routes to the sites.

- . To site facility components to minimize the potential for exposure of groups within populations who are sensitive to exposure and/or are difficult to evacuate along access routes to the site(s).

This objective has the same relevance to land uses along access routes as the second objective did for the sites.

MINIMIZE ENVIRONMENTAL IMPACT

The following objectives are considered significant:

- . To minimize the amount of private property required (to safely construct and operate the facility components) and the disruption to land ownership patterns.

This objective makes the land ownership pattern of a site relevant to the site selection process. Once a site which meets other requirements has been located, it will be important to overlay the pattern of land parcels on and around the site in order to determine how much land must be acquired.

- . To minimize conflict with existing, committed, proposed and planned land uses.

This objective addresses one of the basic tenets of the land use component of the site selection process. This objective indicates the need for complete information on the nature of existing, proposed and planned land uses in and around a site, and also the ability to judge and measure conflicts or compatibility between land uses.

- . To maximize the potential for the establishment of the facility components in locations characterized by similar industrial uses.

The relevance of this objective to the land use component of the site selection process is twofold. First, it supports the conclusion of the consultants that the proposed facilities are industrial in nature and that such uses would therefore be the most compatible with a facility siting. Second, it identifies the need early in the process to identify industrial uses, and to be able to characterize individual uses, i.e., heavy, medium, light.

- . To minimize conflict with Federal, Provincial, municipal and native communities, policies, programs and plans.*

This objective indicates the need to obtain complete information on all such communities, policies, programs and plans as they relate to land use and land ownership and to judge their compatibility with the proposed facilities.

- . To minimize conflict between the facility components, operations and the use and enjoyment of properties in the vicinity of the site(s), as a result of visual intrusion, noise, etc.

This objective addresses the need to have a complete understanding of the characteristics of the proposed facility components, and the existing and proposed uses of properties surrounding the site(s) in order to make an assessment of the compatibility between the two. The feasibility of mitigating any visual intrusion, noise, etc. at a site(s) will be assessed as part of Phase 4A activities.

- . To maximize compatibility with the visual character and appearance of the landscape in the vicinity of the facility components.

***Note:** Native communities and related policies, programs and plans were not considered by the land use consultants or any other technical consultant as a result of OWMC's decision to not establish the facility components on an Indian Reserve.

Similar to the previous objective, a thorough knowledge of the appearance of the facility components must be combined with knowledge of the landscape around a site(s) in order to assess the relative compatibility of alternate sites. This will also be undertaken during Phase 4A.

- . To minimize conflicts between the transportation of hazardous wastes to the facility components and the use and enjoyment of properties along access routes to the site(s).

As before, information on existing and future land uses along access routes must be considered in light of the volume and nature of truck traffic to each facility component in order to select access routes where such conflict is minimized.

- . To minimize the displacement of businesses.

This objective speaks to the need to identify the location of businesses on sites.

- . To minimize property value depreciation.

One of the most significant determinants of change to property values is the actual and perceived compatibility between land uses. The best way to meet this objective is to select a site where land use conflicts between the facility and surrounding uses are also minimized.

MINIMIZE FINANCIAL COSTS TO OWMC

The following objectives are considered significant:

- . To minimize site acquisition costs.

In order to meet this objective, information must be obtained on the cost of acquiring sites and these costs must be built into the site selection analysis.

- . To minimize development and/or operations costs necessitated by site or area characteristics, e.g., special remedial or monitoring measures to protect human health and the environment.

This objective is relevant to the land use component of the site selection process because it will require the selection of a site where incompatibilities with surrounding land uses are minimized.

SELECTION OF FACTORS

With an understanding of the environmental aspects to be examined, the site selection process to be used by the site selection team, and the goals and objectives for the process established, the next task was to determine the land use, land use planning and land ownership factors which would be selected for each of the three study stages.

In selecting factors for each stage, several considerations were taken into account. These were:

- . Does the proposed factor assist in evaluating a site relative to the goals and objectives established for the site selection process?
- . Can the factor be described or measured with reliable and accurate data which are either available or which can be obtained during the proposed stage in the process?
- . Can the factor be described or measured given the geographic area under study, and the scale of the base mapping to be employed?
- . Is the factor relevant to the purpose of each stage in the site selection process?

An overriding consideration which led to the selection of factors was the definition of land uses which would be examined. Agricultural areas, community and recreation facilities, natural and environmentally sensitive areas, and transportation and utilities were allocated to other consultants for study. The three principal land uses which remained, industrial, residential, and commercial, formed the basis for most of the factors to be used in the process. Several factors were identified relating to land use planning designations, including rural and agricultural designations, provincial planning areas and industrial, residential and commercial designations. Land ownership factors completed the factors under consideration.

Between each stage in the site selection process, changes to the factors were introduced to enable the land use consultant to provide more accurate and precise information with which to describe factors, in response to changing base mapping scales, and to the different purpose of each stage.

In addition to this factor selection process undertaken by the consultants, discussions with public agencies and members of the public bore upon the choice of factors. First, a series of meetings with municipal planners and other representatives of municipalities within the candidate areas presented an opportunity to discuss the significant land use considerations which should contribute to the selection of candidate sites. It should, however, be noted that this was not the primary purpose of these meetings, nor was there any specific discussion of the selection of factors.

Second, at the OWMC public workshops in the fall of 1983 and in January, 1984, participants discussed the importance of various land use factors to the process. These public comments assisted in determining the final list of factors. In general, the workshops confirmed the relative emphasis given the factors by the land use planners. One significant finding was a strong preference for locating the physical/chemical treatment plant and incinerator on industrially designated land.

Third, a literature review was undertaken by the consultants in order to gain an appreciation of site selection methodologies employed in other jurisdictions, and of the land use, land use planning and land ownership factors employed in similar processes.

SUMMARY OF FACTORS

In order to provide the reader with an overview of the factors that have been considered in each of the three stages of the process, the factors selected are discussed here, together with a brief discussion of the rationale for their selection, and the relationship between factors in each of the three stages.

Table 1.1 summarizes the land use, land use planning and land ownership factors selected for the three stages in the site selection process. Included in this table are the indicators used to evaluate the significance of the factors. The complete factor sheets are contained in Appendices A, F and I of this report.

From a land use standpoint, the three principal land use categories form the basis for the factors selected. From this common element, somewhat different factors are developed for each stage in response to the size of the geographic unit under study and the nature of data available.

The second group of factors relates to the land use planning policies of local and regional municipalities, and the planning policies of the provincial government. These factors are:

- . Provincial Planning Areas
- . Rural/Agricultural Land Use Designations
- . Residual Lands in Regional Official Plans

In the area of land ownership, factors were incorporated into the analysis in order to take account of whether land is publicly or privately owned, the nature of land parcel fragmentation and land value.

In the final phase of the process, identification of candidate sites, the land use pattern around the sites was also considered under the factor Community Character and Lifestyle.

SUMMARY OF DATA COLLECTION PROGRAM

The data collection program undertaken in order to describe and measure factors was dependent upon the methods established for the study by OWMC for each stage of the analysis. During the first stage, identification of site areas, only secondary source data were utilized and plotted on maps at a scale of 1:50 000. It was at this time that an extensive series of meetings was held with both municipal and provincial agencies in order to gather necessary information. Of prime importance to the land use consultants was the receipt of municipal planning documents, land use surveys, information on public ownership, etc., which were used throughout the study. To augment these data, aerial photography of the candidate areas was utilized in order to determine land uses. These data sources are outlined in Appendix E of this report.

During the last two stages, the data collection program also included site reconnaissance investigations, together with the use of enlarged base mapping at 1:10 000 scale.

RANKING OF FACTORS

After a series of factors were developed and the data collection and analysis components of the study completed, it was necessary to rank each factor so that the relative significance of each to the process could be assessed, and so that areas with varying levels of constraints to facility siting could be identified.

Each factor at each stage in the analysis was assessed relative to three measures:

- . Risk
- . Impact
- . Confidence

The reader will be familiar with the first two concepts as they are the two primary measures of site location suitability, as identified in the goals and objectives for the site selection process. The concept of confidence is an indication of the reliance that can be placed on a factor, given the reliability of data, the possibility for change over time and the uniformity of data.

The balance of this report is organized into three chapters which correspond to the three stages in the site selection process. In each chapter there is a discussion of the factors utilized and the rationale for their selection, the ranking of factors, data collection and analysis, a presentation of the results of the analysis and the implications for the overall process of site(s) selection. In the last two chapters, a rating of site areas and potential sites, in view of the factors employed, is also presented. The appendices to the report include factor sheets utilized in the three stages of the site selection process and various other material used in the data collection and analysis stages of the process.

TABLE 1.1
SUMMARY OF LAND USE, LAND USE PLANNING & LAND OWNERSHIP FACTORS

Identification of Site Areas	Identification of Potential Sites		Identification of Candidate Sites			
	Site Area	Site Vicinity	Site	Site Vicinity	Local Access Road	Regional Access Road
Industrial						
1. Industrial, Designated and Built upon	1. Existing Industrial Uses	1. Existing Industrial Uses	1. Existing Commercial & Industrial Uses -Industrial Facilities	1. Existing Commercial & Industrial Uses -Industrial Facilities	1. Existing Commercial & Industrial Uses -Distance through Industrial Areas	---
2. Industrial, Designated, Serviced and Vacant	---	---	---	---	---	---
3. Industrial, Designated and Vacant	2. Future Industrial Uses	2. Future Industrial Uses	2. Future Commercial & Industrial Uses -Planned & Proposed Facilities	2. Future Commercial & Industrial Uses -Planned & Proposed Industrial Facilities	2. Future Commercial & Industrial Uses -Distance through Designated Industrial Areas	---
Residential						
4. Residential, Designated and Built upon	3. Existing Residential Uses	3. Existing Residential Uses	3. Existing Residents -Number of Residences Displaced	3. Existing Residents -Number of Residences	3. Existing Residents -Number of Residences -Distance through Strip Residential Development	Existing Residents -Distance through strip residential development
5. Residential, Designated, Serviced, and Vacant	---	---	---	---	---	---
6. Residential, Designated and Vacant	4. Future Residential Uses	4. Future Residential Uses	4. Future Residents -Projected Population Levels -Approved Residential Plans of Subdivision -Residential Land Use Designation -Residential Zoning -Residential Development Proposals	4. Future Residents -Projected Population Levels -Approved Residential Plans of Subdivision -Residential Land Use Designation -Residential Zoning -Residential Development Proposals	4. Future Residents -Distance through residential land use designations	---
7. Residential, Rural & Agricultural Areas	---	---	---	---	---	---
Commercial						
8. Commercial, Designated and Built upon	5. Existing Commercial Uses	5. Existing Commercial Uses	1. Existing Commercial & Industrial Uses -Commercial Facilities	1. Existing Commercial & Industrial Uses -Commercial Facilities	1. Existing Commercial & Industrial Uses -Distance through Commercial Areas	---
9. Commercial, Designated and Vacant	6. Future Commercial Uses	6. Future Commercial Uses	2. Future Commercial & Industrial Uses -Planned & Proposed Commercial Facilities	2. Future Commercial & Industrial Uses -Planned & Proposed Commercial Facilities	2. Future Commercial & Industrial Uses -Distance through Designated Commercial Areas	---
Other Uses / Designations						
10. Provincial Planning Areas	7. Provincial Planning Areas	---	5. Provincial Planning Areas	---	---	---
11. Rural Designations	8. Rural/Agricultural Designations	7. Rural/Agricultural Designations	6. Future Resources -Rural Agricultural Designations	5. Future Resources -Rural Agricultural Designations	---	---
12. Individual, Regional Official Plan	---	---	---	---	---	---
Land Ownership						
13. Publicly Owned Land	9. Publicly Owned Land	---	7. Land Acquisition -Land Ownership -Land Value -Land Fragmentation	---	---	---
Community Character & Lifestyle						
---	---	8. Proximity to Residential Community	---	6. Existing Community Character & Lifestyle -Land Use Pattern	---	---

2. IDENTIFICATION OF SITE AREAS

INTRODUCTION

During the identification of site areas a mapping process known as constraint mapping was employed in order to identify areas considered unsuitable for the location of waste treatment and disposal facilities. These areas were then excluded from further consideration. Maps displaying all relevant factors were prepared by consultants in each discipline; these maps were combined and overlaid on the candidate areas previously defined in Phase 3A. This process of combining the individual constraint maps was used to define and identify the site areas. Those lands not directly affected by the composite constraint mapping were identified as site areas.

Because of the size of the candidate areas, extending from Brampton-Mississauga north of Lake Ontario to Niagara Falls-Port Erie south of the lake, two key elements guided this mapping process:

- . 1:50 000 base mapping was used
- . only secondary source information was employed

These two key elements had a significant impact on the selection of factors for this stage of work.

FACTORS AND FACTOR DOCUMENTATION

The following sub-sections outline the process of selecting the factors utilized in the land use analysis, and the method of documenting them.

FACTORS

In considering potential factors for this stage of the analysis, the considerations outlined on page 8 of the Introduction were utilized in determining the final selection of factors.

Industrial, Residential and Commercial Land Uses

The selection of factors began with an examination of the most appropriate manner in which to map the three principal land use categories, industrial, residential and commercial. It was apparent, given the large geographic area involved and the prescribed use of secondary source data, that primary land use surveys could not be undertaken. Consideration was given to the use of aerial photography interpretation to determine land uses. This approach has several drawbacks when used exclusively. First, it was not always possible to distinguish between these land use categories (or between these uses and other uses). Second, at a scale of 1:30 000 the aerial photography would not always permit the precise differentiation amongst uses that would be required. There would in any event be the need to generalize land uses in some instances when working at this scale.

For these reasons, together with the need to identify future uses, it was decided that the various industrial, commercial and residential land use designations of local official plans would be used as the basis for identifying these land uses. This not only offered a consistent way of grouping land uses in order to meet the limitations of the 1:50 000 scale base mapping, but it was a fairly consistent secondary source which was available for all lands in the candidate areas. It was also decided that municipal planning policies governing the future use of land would be considered at this stage in the process.

Given this approach, it was clear that some distinction would have to be made between lands which are vacant and those which are built upon, as varying risks and impacts would be in evidence. Further examination also revealed that some lands within two of these categories, industrial and residential, were in the process of being developed and serviced and therefore did not fall into either of these categories. For these reasons, the following sub-categories of each principal land use were developed:

- . Designated and Built upon
- . Designated, Serviced and Vacant*
- . Designated and Vacant

The distinction between built upon and vacant lands was determined by reviewing air photography of the designated areas, supplemented by direct field observation. Lands that were serviced prior to impending development were distinguished from vacant lands through discussions with local municipal officials and confirmed by roadside land use surveys.

With the establishment of these factors, it was apparent that industrial, commercial and residential land uses located outside of a corresponding designation would not be mapped as a factor. This limitation was accepted at this stage; the analysis affected the following situations:

- . scattered industrial and commercial uses, usually in rural areas.
- . industrial, commercial and residential uses that were not in conformity with the official plan designation.

This limitation was considered acceptable at this level of analysis, as these uses would be examined in subsequent stages.

* No commercial lands were identified in this category; therefore, no factor was developed.

A third instance occurred where this limitation was not considered acceptable. This was the occurrence of residential uses, particularly clusters of such uses, in rural areas. A cursory examination of the candidate areas revealed such uses to be widespread. It was therefore concluded that an additional residential factor, Residential Development in Rural and Agricultural Areas, would be appropriate despite being external to official plan designations. In order to be significant, a minimum number or grouping of such residences in a cluster would also have to be determined. For purposes of this analysis, and based on the widespread occurrence of linear residential development in rural areas, it was decided that the minimum-sized group or cluster to be mapped would be 15 residences within a circle with a 500 metre radius. Aerial photography, supplemented by roadside house counts near candidate site areas, was the primary source of data on residential clusters. The clusters were mapped on 1:50 000 scale base maps.

Other Land Uses and Designations

A review of the official plans of the local and regional municipalities, and certain Provincial policy plans within the study area revealed three additional types of policies which were significant to the site selection process.

Rural Designations. The first of these was the concept of Rural designations. By way of background, an understanding of the structure of official plans in Southern Ontario would be beneficial. In the past, official plans frequently used the terms Rural and Agricultural interchangeably to refer to all rural lands not designated for some other use. However, a number of plans in Niagara Region and Brant County contain both Agricultural and Rural categories, or a second Agricultural category. The latter designation has been used to identify lands of lesser agricultural capability, and therefore of lower priority for retention in agricultural use.

The Canada Land Inventory (CLI), produced by the federal government, groups soils into seven classes based on surveyed soil capability to sustain crops. The CLI system classifies the soils from fewest to highest limitation on crop use

consecutively from Class 1 (best agricultural soils) to Class 7 (worst agricultural soils). In cases where both an Agricultural and Rural designation exist in the Official Plan, the better quality soils (Classes 1, 2 and perhaps 3) would be designated Agricultural, and the remainder Rural. A similar distinction would be made to differentiate between soil capabilities in a plan with a dual Agricultural designation system.*

The following official plans contain a second Agricultural or Rural designation to differentiate between the soil capabilities of lands:

Niagara Region	Category Name	Definition
City of Niagara Falls	Rural	Some Class 3, and all Class 4-7
City of Thorold	Rural Area	Not Defined
Brant County		
Township of Brantford	Rural	Class 5-7 soils, and Class 4 where surrounded by Class 5-7.
Township of Onondaga	Rural Agricultural II	Class 5-7 soils

The Region of Niagara Official Plan contains a Rural Area designation which is applied to agricultural areas where Class 4-7 soils predominate. It specifically excludes:

- . tender fruit lands
- . good grape lands
- . areas of organic soils
- . Class 1 and 2 lands
- . areas of 60 to 70% Class 1 and 2 lands
- . most Class 3 lands

* It should be noted that the agricultural consultant, Ecologistics Limited, has undertaken a detailed analysis of soil capability for agriculture which was incorporated into the site selection process.

This policy of dual rural designations is being incorporated into local official plans in Niagara Region in order to conform to the Regional Plan.

A review of the definitions of each of the Rural categories which occur in each municipality indicates a significant variation in the basis for each. For this reason, it was concluded that the more detailed analysis of soil capability undertaken by Ecologistics Limited would be more suitable for use in the site selection process.

Provincial Planning Areas. A second feature of land use planning in the candidate areas was the impact which Provincial Planning Areas have on the use of land.

Under the provisions of two Provincial Acts, The Niagara Escarpment Planning and Development Act and The Parkway Belt Planning and Development Act, the province has effectively assumed planning and development control powers in certain portions of the candidate areas. The planning documents prepared for these areas must therefore be regarded in a similar way to local and regional official plans. The two plans are treated as a single factor in Phase 3.

1. Niagara Escarpment Plan. In 1973 the Niagara Escarpment Planning and Development Act established the Niagara Escarpment Commission (NEC) and provided the legal framework to develop a Plan for the Niagara Escarpment and lands in its vicinity. The stated purpose of the Act is:

"to provide for the maintenance of the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment, and to ensure only such development occurs as is compatible with that natural environment."

Similar to an official plan, the Niagara Escarpment Plan establishes land use designations with corresponding policies. Three of these designations appear within candidate areas in Milton and Burlington. These designations are:

- . Escarpment Natural Area
- . Escarpment Protection Area
- . Escarpment Rural Area

The Escarpment Natural Area designation and the Escarpment Protection Area affect the escarpment itself and the areas immediately adjacent. These designations are the most restrictive in terms of permitted uses. The Escarpment Rural Area is somewhat more permissive, allowing, for instance, small scale commercial and industrial uses, and more extensive quarrying operations subject to compliance with other development criteria.

The NEC Plan is recognized as a land use category in the Halton Region Official Plan and in area municipality official plans within the Region.

The Plan has recently been the subject of extensive public hearings and, as a result of these hearings, the Commission released its "Final Proposed Plan for the Niagara Escarpment" in June, 1983. The Plan received final approval with some boundary modifications in mid-1984.

2. Parkway Belt West Plan. The Parkway Belt West Plan was prepared by the Province in order to fulfill four major goals for the portion of the "Golden Horseshoe" area extending from Hamilton to Markham. These goals are:

- . to define and separate urban communities.
- . to provide corridors for the provision of roads, utilities, transit lines, etc.
- . to provide a land reserve for future linear transportation and utility facilities.
- . to provide a system of open space and recreational facilities.

Candidate areas in Brampton, Mississauga, Oakville and Milton are affected by the Plan. The objective of the Parkway Belt in the Brampton-Mississauga area is primarily to provide a corridor for Highway 403, and in the Milton area to separate "northern-tier" urban communities planned for the long-term future. For those lands not designated for utility or transportation uses, the policies of the Plan permit primarily open space, agricultural, recreational and other compatible uses. Generally, a fairly diverse range of uses may occur within the Parkway Belt.

The Parkway Belt West Plan is recognized as a land use category in the Halton Region Official Plan and in area municipality official plans within the Region.

The boundaries of the Parkway Belt West Plan were taken from "The Parkway Belt West Plan" July, 1978, as approved by the Provincial Cabinet. It should be noted that the Plan is currently under review by the Ministry of Municipal Affairs and Housing and may be modified in both areal extent and range of permitted uses.

Residual Land in Regional Official Plans. The third additional factor related to official plans was the concept of Residual Lands in Regional Official Plans. The general purpose of regional official plans is to set out the broader regional framework within which local municipalities may conduct detailed land use planning. In this regard, one of the most significant features of regional official plans is to establish the limits of urban development around urban centres. Once this is done, the local municipality is responsible for setting out the permitted land uses.

Under this system, it may occur that an area has been designated for urban uses by a regional official plan but has not, as yet, been designated for a specific (residential, industrial) urban use.

Such an occurrence was determined to be significant from a land use viewpoint due to the commitment to urban uses which is in evidence. It is recognized, however, that there will be a high degree of variability in the risk and potential impact associated with facility siting on these lands, due to the uncertainty of the long term future land use.

Land Ownership

In the area of land ownership, it was considered important to identify lands held in public ownership throughout the candidate areas, as the utilization of such lands for OWMC facilities would minimize direct impacts on private property owners. Information on the holdings of federal, provincial and municipal governments was therefore obtained to map the factor, Publicly Owned Lands.

FACTOR DOCUMENTATION

Factor Sheets

The characteristics of the 13 Land Use, Planning and Land Ownership Factors are described in detail in factor sheets which are provided in Appendix A. The format of the sheets is the same as that used by the OWMC's other consultants for all factors in order to facilitate comparison and analysis.

The factor sheets provide categories for a full description of the particular factor and its significance. A brief explanation of some of the headings may be helpful to the reader.

Rationale/Significance. The characteristics of the factor which make it significant in relation to the OWMC facility are noted, and the linkages by which this effect is manifested. The focus of this description is the potential significance of locating a facility within the subject land use.

Interpretation/Methodology. The methodology by which primary and secondary data were analyzed to determine the lands falling into each factor are outlined here.

Criteria/Indicators. Where minimum threshold criteria or numerical indicators, e.g., minimum density per hectare, are used in determining the occurrence of a factor, the criteria are defined in this section.

Comments/Assumptions/Limitations. Any limitations to the data used to generate the factor are described, together with any assumptions that may have been made.

DATA COLLECTION

The data collection program undertaken with regard to the foregoing factors consisted of the following main elements:

- . attendance at a series of meetings with municipal representatives in order to obtain municipal plans and records relevant to each factor.
- . attendance at a series of meetings with federal and provincial agencies to obtain necessary information from these agencies.
- . review of 1:30 000 scale aerial photography dated 1983 and 1982 in order to determine existing land uses.

Appendices D and E contain additional information on the series of meetings held with municipalities and the data sources employed.

The following sections discuss each factor and describe the sources of data and methods which were utilized.

EXISTING INDUSTRIAL USES

Existing Industrial areas include all lands occupied by industrial buildings and industrial uses, including parking, storage, landscaping, tailings and rail sidings.

These areas were identified from 1982 and 1983 Ministry of Natural Resources (MNR) aerial photography at a scale of 1:30 000 checked against existing land use mapping and other data from area municipality planning staff, where available. Plans of industrial areas provided by Niagara and Hamilton-Wentworth region staff were also utilized.

In areas where development was not complete, a distinction was made between built upon and vacant lands based upon land ownership and boundaries apparent from aerial photography interpretation. At this scale of analysis, minor vacant pockets of land constituting 1 or 2 industrial lots, were not separately identified. A line dividing primarily vacant and built upon lands was established.

Only industrial development within areas designated for Industrial uses was mapped. Industrial uses outside industrially designated areas were therefore excluded at this stage of analysis; as a result some minor industrial uses were not mapped.

All Industrial designations are combined under this heading, including the following industrial categories which appear in various area municipality official plans:

- . Industrial
- . Prestige Industrial
- . General Industrial
- . Rural Industrial
- . Urban Industrial/Business Park
- . Light Industrial
- . Heavy Industrial
- . Restricted Industrial
- . Dry Industrial

- . Deferred Industrial
- . Industrial Extractive*
- . Pits and Quarries*
- . Underground Mine Areas*

Subdivision of the industrial factor into light, medium and heavy industry was considered by the consultants, but was not undertaken for two reasons. First, reliance on secondary sources at this stage of the process made it impractical to categorize existing industries by type. Second, the lack of consistency between official plans in the definition of industrial designations discouraged making a separation on this basis.

EXISTING RESIDENTIAL USES IN URBAN AREAS

Residential development, particularly in older communities, rarely occurs without a substantial intermixing of institutional, transportation, commercial, recreational and other uses.

The objective of mapping residential uses is to identify the location of significant concentrations of residential uses and not to map the location of individual uses. The latter would not have been appropriate considering the scale of the base mapping and of the aerial photography from which most of the data was interpreted.

For these reasons, existing residential uses within urban areas have not been disaggregated from the assorted uses with which they are typically associated. With the exception of designated commercial and industrial uses, which are shown on a separate overlay series, and major open space, which has been treated as undeveloped land, the balance of urban development was considered to be predominantly residential and has been mapped as existing residential uses.

* Each occurrence of these categories is noted separately on the mapping.

More detailed surveys of existing land uses in proximity to candidate sites later in the study program will provide the data necessary to refine the mapping of these uses. At this stage in the study, it was not a critical distinction.

The limits of existing urban development are derived from aerial photography, cross-checked with existing land use surveys, and other information supplied by municipal planning staffs.

EXISTING RESIDENTIAL USES IN RURAL AREAS

The mapping of existing residential uses in agricultural and rural areas required that the consultants set a standard for the threshold concentration which would serve as a useful measure of a rural residential cluster. It was determined that a minimum of fifteen (15) residences within a circle with a 500 metre radius would be the minimum concentration plotted. These residential clusters were identified using aerial photography and confirmed by selected direct field checks.

RESIDENTIAL DESIGNATIONS

All urban residential and hamlet designations appearing in area municipality official plans, or the subject of municipal - initiated amendments were combined under the Residential category and plotted, both developed and vacant. The designation includes the following categories:

- . Residential
- . Hamlet Community
- . Village Residential
- . Urban Settlement
- . Rural Settlement
- . Village Community
- . Neighborhood Residential

The Regional Niagara Plan sets out boundaries of growth for the major urban settlements in the Region and identifies minor settlements by symbol as "Urban Study Areas". The Region of Halton similarly sets out urban area limits. The Region of Hamilton-Wentworth Official Plan delineates limits of development by major land use.

RESIDUAL LANDS IN REGIONAL OFFICIAL PLANS

Regional and local officials plans were reviewed to determine any locations where lands designated as urban areas in regional official plans were designated for non-urban uses (i.e. rural or agricultural) in local municipal plans. There were no occurrences of this nature. For this reason, this factor was dropped from further consideration in the analysis.

EXISTING COMMERCIAL USES

All significant commercial uses within urban areas, such as shopping strips, shopping centres and large individual commercial uses, have been mapped. The consultants have not identified minor commercial uses which are not designated in official plans.

In rural areas, smaller individual commercial uses have been shown where they fall within settlement official plan designations.

COMMERCIAL DESIGNATIONS

All Commercial designations within the candidate areas were mapped including isolated commercial uses which may have site-specific commercial designations, but limited geographical impact. The following designations have been included as Commercial:

- . Commercial
- . General Commercial
- . District Commercial

- . Highway Commercial
- . Tourist Commercial
- . Resort Commercial

DEVELOPMENT APPLICATIONS

All area municipality planning staff were requested to identify current or pending development applications within the candidate areas, including the following:

- . plans of subdivision
- . rezoning applications
- . privately-initiated official plan amendment applications (amendments proposed by the municipality were excluded)

Although development applications were not considered significant enough to warrant recognition as a factor in the analysis, they were used to distinguish between serviced and vacant lands for constraint mapping purposes. These applications were mapped as they relate to the major land use designations, and the status of applications were reviewed by staff of the Ministry of Municipal Affairs and Housing.

Development applications were categorized as either having council approval or pending such approval.

Land severance and condominium applications were not considered.

PUBLICLY OWNED LANDS

The following public agencies were asked to identify their land holdings within the candidate areas, and this information was mapped:

- . Area Municipalities
- . Regional Municipalities
- . Conservation Authorities

- . Ministry of Government Services (MGS)
- . Ministry of Transportation and Communications (MTC)
- . Ontario Land Corporation (OLC)
- . Ontario Hydro
- . St. Lawrence Seaway Authority
- . Federal Department of Transport

At this stage in this process searches of municipal assessment maps were not undertaken in order to confirm the information supplied.

The criteria for inclusion varied to some degree by agency, depending on the availability of data. All lands owned by municipalities, conservation authorities and MGS were mapped. Only surplus lands owned by the St. Lawrence Seaway Authority, Ontario Hydro and the Ontario Ministry of Transportation and Communications were mapped. Only surplus lands belonging to OLC and Ontario Hydro over 10 hectares in size were mapped due to data limitations imposed by these agencies.

RANKING OF FACTORS

The next step in the identification of site areas through constraint mapping was to consider the degree to which each factor represents a constraint to the siting of OWMC facilities from a land use and planning perspective. Residual Lands in Regional Official Plans was not ranked due to the lack of data which emerged.

In undertaking this assessment, three aspects of constraint were identified and analyzed. These were, in descending order of importance: risk, impact, and confidence.

RISK

For the purposes of this report, risk is defined as risk to human health resulting from specific land uses and land use relationships. It deals with such variables as the composition of the day- and night-time populations within the area affected by the particular factor, as well as the possible hazards associated with the siting and operation of OWMC facilities in an area, and with the transportation of wastes to the site.

IMPACT

Impact refers to potential land use-related impacts, such as the actual (or perceived) effect of traffic, odours or noise on the enjoyment of property, limitations on potential use of property, or property values.

CONFIDENCE

Level of confidence, in the context of land use and land ownership, is a combination of three components:

1. confidence in the accuracy of the data on which the factor is based,
2. degree of homogeneity of the data, and
3. expected stability of the factor over time.

In undertaking this assessment of each factor, Factor Classification Sheets were prepared for each factor. The sheets for the 12 remaining Land Use, Planning and Land Ownership Factors are contained in Appendix B.

The classification of the 12 factors is summarized in Table 2.1. The classification was based on the consultant's judgment with primary weight given to risk to human health, and less weight given to land use impacts.

The four factors with "high" rankings for risk have commensurately high rankings in the other categories, and are clearly not suitable from a land use planning viewpoint in terms of the potential for locating OWMC facilities within their areas. These are existing residential uses in both urban and rural areas, developed commercial areas and serviced residential areas.

TABLE 2.1

Identification of Site Areas
Summary of Factor Classification

FACTOR	RISK	IMPACT	CONFIDENCE	CONSTRAINT
Rural, Designated	L	L	L	Low ↑ ↓ High
Industrial, Designated and Vacant	L	L	M	
Publicly Owned Land	L	L	M	
Provincial Planning Areas	L	M-H	M-H	
Industrial, Designated, Serviced and Vacant	L-M	L	M-H	
Industrial, Designated and Built Upon	L-M	L-M	H	
Commercial, Designated and Vacant	M-H	M	M-H	
Residential, Designated and Vacant	M-H	M-H	L-H	
Residential, Existing Rural & Agricultural	H	M	M	
Commercial, Designated and Built Upon	H	M-H	H	
Residential, Designated, Serviced and Vacant	H	H	H	
Residential, Designated and Built Upon	H	H	H	

Note: Residual Lands in Regional Official Plans is not ranked due to the lack of data which emerged.

APPLICATION TO SITE SELECTION PROCESS

Upon completion of the foregoing analysis, overlay maps showing the geographic extent of each factor were provided to the site selection team for incorporation with all other relevant factors. These maps were organized into four map series; Industrial, Commercial, Residential, and Provincial Planning and Rural Designations and Publicly Owned Lands. These maps are presented in the Technical Data Map Portfolio and are numbered K-3 to K-18.

The consultant's ranking of factors was also provided to the site selection team in order to decide upon the treatment of each factor.

As a member of the site selection team, the land use consultants participated in the constraint mapping exercise which included the decision as to which factors would be treated as exclusionary. This decision took into account the ranking of factors as presented in Table 2.1.

The preliminary conclusions and the reasons why certain factors were identified as exclusionary are contained in the Phase 3B: Selection of Candidate Sites - Site Selection: Volume 1 - Identification of Site Areas report prepared by M.M. Dillon Limited.

Prior to the final decision on these factors, however, OWMC and its consultants considered a series of trade-offs among the key factors and siting objectives. One of the trade-offs considered was to treat certain agricultural factors as non-exclusionary, and assess whether certain site areas had significant accessibility advantages over other site areas with similar hydrogeologic conditions within Candidate Area 18. The land use consultant's role as a member of a team of consultants was to undertake fieldwork along the access routes through the central portion of the subject area to measure the linear distance through built-up urban areas, and the number of existing residences and community and recreational facilities along the routes. Generally, the shorter the distance and smaller the number of residences or community facilities along the route, the more advantageous the route.

After reviewing the data, it was concluded by OWMC that no particular routes offered sufficient transportation access advantages to potential site areas in Candidate Area 18 to warrant modification of the exclusionary agricultural factors. Therefore, no changes were made to the constraint maps as a result of this exercise.

Reference should be made to the Phase 3B - Site Selection - Volume 1 - Identification of Site Areas report prepared by M.M. Dillon for a detailed discussion of the process, summary of data collected, and conclusions of this exercise.

AREA A-1 LAND USE STUDY

During the identification of candidate areas during Phase 3A the area known as Area A-1, which extends from the Region of Halton in the west to Durham Region in the east, was identified by OWMC as having the lowest priority in the location search exercise because of its complex and variable soil conditions. Area A-1 was, therefore, initially excluded from further consideration in the search for candidate areas.

Upon completion of the identification of candidate areas (Phase 3A), it was evident that the exclusion of Area A-1 would mean that only small parcels of publicly-owned land and industrially-designated land would remain for subsequent analysis. Because industrially-designated and publicly-owned lands were identified as areas of high siting priority, OWMC decided to proceed with a further level of hydrogeological investigation for Area A-1 to maximize the opportunities for identifying candidate sites on non-agricultural land.

Prior to undertaking this further level of hydrogeological investigation, it was decided that a land use study of this area should be undertaken in order to assist in the ultimate goal of maximizing the opportunities for identifying candidate sites on non-agricultural lands, and to identify lands unsuitable for a facility siting from a land use perspective.

The results of the land use study were provided to the hydrogeological consultants to OWMC, Gartner Lee Associates Limited, to assist in their investigation of this area.

The method of analysis used in this study is presented in Appendix K. Maps K-1 and K-2 in the Technical Data Map Portfolio submitted under separate cover from this report present the mapped results of this study.



3. IDENTIFICATION OF POTENTIAL SITES

INTRODUCTION

The purpose of this section is to describe the approach used by the land use consultants to assist the OJMC to systematically screen the 152 site areas which emerged from the constraint mapping process. The result of this screening was the identification of a relatively small number of potential sites suitable for an initial comparative evaluation.

A two-stage process was established to perform this task. The first stage applied the land use, land use planning and land ownership factors developed during the constraint mapping process to all 152 site areas. Only secondary information sources were utilized and the data was mapped at a scale of 1:50 000. This set of factors, in addition to the factors developed by the various other consultants in their areas of study, contributed to the exclusion of some 62 site areas from further consideration. Land use factors contributed in whole or in part to the exclusion of 5 of the 62 site areas. The reasons for excluding these 5 site areas are outlined in the following sub-section, Initial Site Area Screening.

The remaining 90 site areas were examined more thoroughly during the second stage of the site area screening process, which involved more detailed investigation than had previously been undertaken. This process is described in the sub-section entitled Detailed Site Area Screening.

INITIAL SITE AREA SCREENING

As a result of the constraint mapping exercise undertaken at the scale of 1:50 000, a total of 62 of the original 152 site areas were excluded from further consideration by OWMC. Of these 62 site areas, 5 were eliminated in whole or in part for land use-related reasons. The remaining 57 were rejected for other, non-land use reasons. The report Phase 3B: Selection of Candidate Sites - Site Selection: Volume 2 - Identification of Potential Sites prepared by M.M. Dillon Limited presents the reasons for the exclusion of these site areas.

Appendix G lists the 5 site areas and presents a summary description of the land use reasons for their elimination from the review process.

This appendix reveals that most of the 5 site areas eliminated partially or wholly for land use reasons were located near significant clusters of residential development. The presence of these residences, both within the site areas and in the immediate vicinity, substantially reduced the suitability of the site areas for waste treatment facilities.

In addition to significant residential development, several site areas contained official plan designations that were deemed unsatisfactory for OWMC facilities due to incompatibility with existing or planned land uses.

A total of 90 site areas entered the next stage of the site screening process.

DETAILED SITE AREA SCREENING

To further screen the 90 site areas that remained following the initial screening process, it was determined that a more detailed investigation of land use and land use planning conditions would be made. The original set of factors and indicators utilized in the constraint mapping exercise was substantially modified at this point to derive an appropriate method of analysis for the next level of screening. It was determined that all 90 site areas would be subjected to individual field investigations and detailed analysis at an enlarged base mapping scale of 1:10 000. At this level of detail, it was possible to generate more specific data based on observed land uses rather than land use designations.

FACTORS

The factors utilized in the first stage of the analysis were adapted from the factors which were used during the process of site area identification, in addition to new factors derived from the detailed site area investigations.

The second stage factors were based largely on actual land uses, mapped at a scale of 1:10 000 rather than relying upon land use designations mapped on 1:50 000 scale mapping. Roadside land use surveys were performed to collect the primary data. These were supplemented by secondary sources, such as aerial photographs and municipal land use documents acquired during the previous stage of work.

This shift from secondary to primary data sources and from land use "designations" to land "uses" is significant. A higher level of confidence in the information was achieved as a result of use of primary data. This was considered a necessary progression in that existing land uses may not accurately reflect the land use designations contained in the official plan due to historic and other development conditions. Roadside land use surveys were undertaken to verify and cross-check data previously collected through secondary sources. Specifically, the land uses which were investigated were limited to the principal categories of industrial, residential and commercial; consideration of the remaining uses was assigned to other consultants.

In addition to factors relating to existing land use, factors were developed to investigate land use planning concerns in the 90 site areas. Land ownership criteria were also investigated during this stage, but only as they relate to public land holdings.

The following sub-sections outline the factors utilized in the identification of potential sites stage, and a brief description of the rationale for their use.

LAND USE FACTORS

The existing and future land use status in and around the 90 site areas was the key consideration in this stage of the screening process. In order to identify the risks and impacts resulting from a potential waste treatment or disposal facility, it was first necessary to ascertain the nature of existing residential, commercial and industrial development in the site area. Secondly, it was deemed valuable to assess the development outlook for the short-term future, based on proposed and approved land use designations and development applications.

As a result, the following factors were developed to evaluate existing and future land uses in each of those principal land use categories (residential, commercial and industrial) for both the identified site area and the site vicinity (i.e., those lands within 400 m of the site area):

- . Existing uses in the site area
- . Future uses in the site area
- . Existing uses in the site vicinity
- . Future uses in the site vicinity

The locational distinction was made because impacts to land uses and activities within the site area can be significantly different from the impacts to uses in the site vicinity. For example, land uses within the site area may be removed as a result of development by the OWMC, whereas uses in the site vicinity may not be removed but may be impacted by a nearby waste treatment facility.

In addition, the following factor was formulated to account for the presence of established residential communities in close proximity to the proposed site area (i.e., within 2 km), but beyond the defined 400 metre limit of the site vicinity as these communities could conceivably be subject to potential impacts from waste treatment facilities:

- . Proximity to residential communities

LAND USE PLANNING FACTORS

In addition to the preceding factors, the following three planning-related factors were developed to account for land use designations other than the three principal land uses:

- . Rural/Agricultural Land Use Designations in the site area
- . Rural/Agricultural Land Use Designations in the site vicinity
- . Provincial Planning Areas

The first two factors were formulated to assess the compatibility of OWMC facilities with respect to rural and agricultural land use designations in official plans.

The provincial planning areas factor refers to the policies of both the Niagara Escarpment Commission (N.E.C.) Plan and the Parkway Belt West Plan, which affect some of the site areas. These plans were reviewed to determine compatibility with these plans. This factor was considered a significant constraint only if the designated lands are located in the site area, not in the site vicinity. The rationale for this approach is that the principal effect of both provincial plans is to deter development rather than to promote new land uses. In the case of the N.E.C. Plan, the plan designations also include a "rural area" which is essentially a buffer or transition area between the most highly protected natural areas and the lands beyond the N.E.C. boundary of jurisdiction. The Parkway Belt Plan limits development to "compatible" uses, mostly rural in nature, or to transportation - utility corridor uses. The latter uses would not pose a constraint to the OWMC facility.

LAND OWNERSHIP FACTORS

One additional factor of significance was identified with respect to land ownership:

- . Publicly owned lands in the site area.

As in the previous stage it was considered important to determine the level of public land ownership because of its effect on site acquisition costs and impact on private property. Public ownership of land was considered only in the site area and not the site vicinity.

Factor sheets for each of the 17 factors were prepared to define the factor, describe its rationale or significance, list the sources of the data, provide an interpretation or methodology for determining this factor, and any additional comments, assumptions or limitations applicable to this factor (see Appendix F).

DATA COLLECTION AND ANALYSES

Site area screening data collection involved field investigations of the 90 site areas which emerged from the constraint mapping and initial screening process. Standard field survey forms were completed and land use data were mapped at a scale of 1:10 000. These field surveys, which were performed beginning in December, 1983, included the collection of locational data (lot, concession, municipality), specific land use identification, general comments regarding qualifications or constraints to field observations, and photographs of features of interest from a land use perspective. The land use types and the location and direction of the photographs were noted on the existing land use maps for each site area. The information was noted for both the site area and the site vicinity extending some 400 m in all directions from the site area.

The results of the land use surveys were then cross-referenced with 1978 and 1983 aerial photographs of the relevant site areas as provided by OWMC, and available municipal land use surveys.

The extent of each of the land uses was plotted in accordance with apparent property boundaries and fence lines derived from the aerial photographs. Any additional features, such as billboards promoting sales of lots from subdivision plans, new local roads and services, or recent construction activity, were further investigated through enquiries of municipal planning departments.

Planning documents from all area and regional municipalities were obtained through a series of meetings during July and August, 1983, and through follow-up contacts with these agencies. The relevant approved and draft Official Plans, Zoning By-Laws, registered plans of subdivision, planning staff reports, and land use inventories were obtained and utilized in evaluating the planning status of the various candidate site areas.

An office information form was developed to document the municipal data according to site area location, local and regional Official Plan and zoning designations, public land ownerships and development applications for both the immediate site area and the site vicinity.

The resulting information was displayed on 1:10 000 scale Ontario base maps which are on file with OWMC. An example of one of these site area maps (LF-4W - see map K-19) is included in this report.

RANKING OF FACTORS

The next step in the identification of potential sites was to consider the degree to which each of the 17 factors represented a constraint to the siting of OWMC facilities. As in the previous stage, the factors were assessed against the three identified aspects of constraint: the "risk" to human health; the "impact" on land use and property; and the "degree of confidence" in the accuracy, homogeneity and stability of the data and factors used in the assessments. Each of the three aspects was ranked by the consultant in a range from low to high for all 17 factors. These are summarized in Table 3.1.

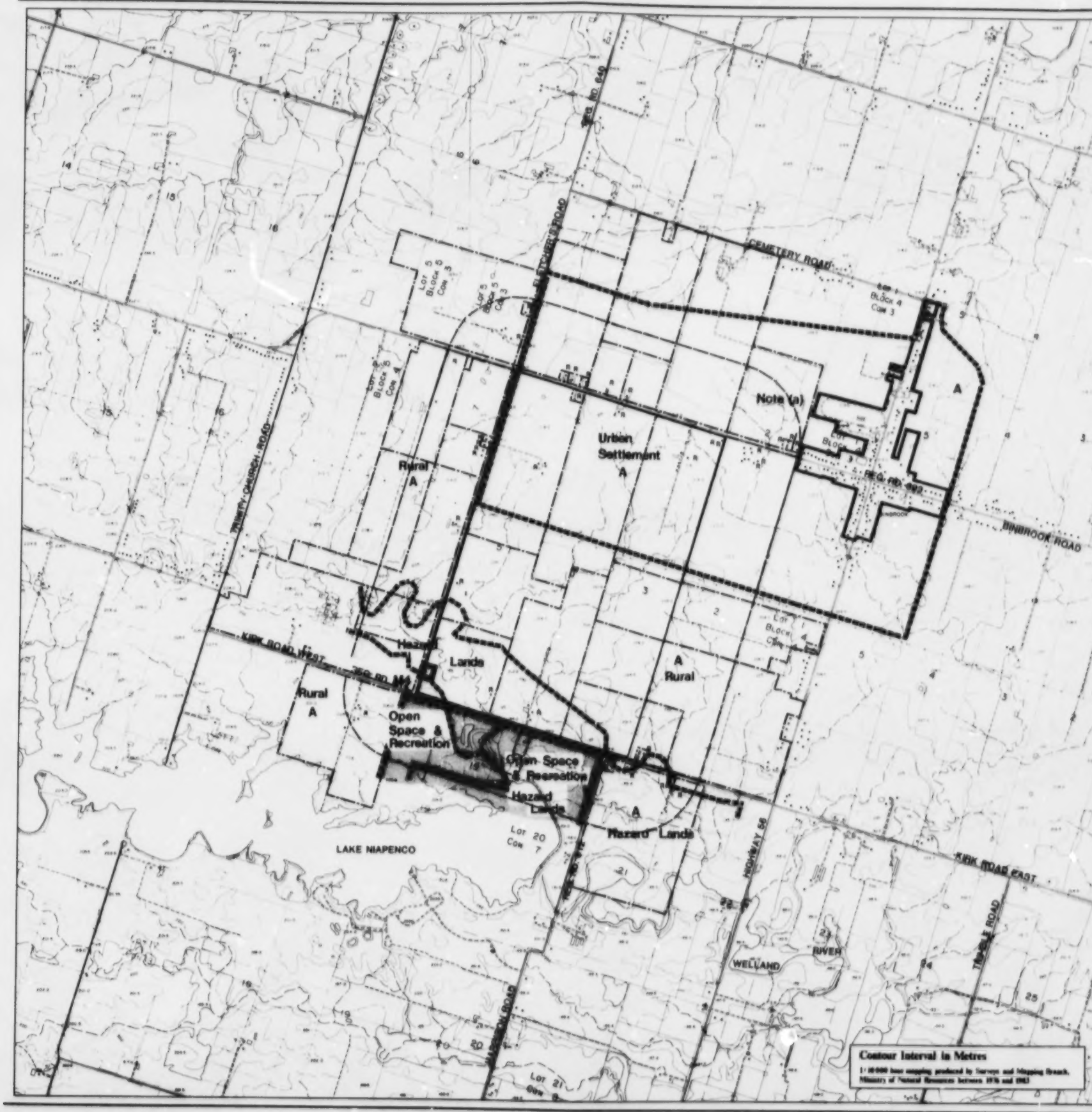
TABLE 3.1

Identification of Potential Sites
Summary of Factor Classification

	<u>Risk</u>	<u>Impact</u>	<u>Confidence</u>	<u>Constraint</u>
Publicly Owned Land, Site Area	L	L	M-H	Low
Provincial Planning Areas, Site Area	L	L-H	M	
Future Industrial Uses, Site Vicinity	L	L	M	
Future Industrial Uses, Site Area	L	L-M	M	
Rural/Agricultural Land Use Designations, Site Vicinity	L	M-H	M	
Rural/Agricultural Land Use Designations, Site Area	L	M-H	M	
Existing Industrial Uses, Site Vicinity	L	L	H	
Existing Industrial Uses, Site Area	L-M	L-M	H	
Future Commercial Uses, Site Vicinity	M	M	M	
Existing Commercial Uses, Site Vicinity	M	M-H	H	
Future Commercial Uses, Site Area	M-H	M	M	
Proximity to Residential Communities	M	M-H	H	
Future Residential Uses, Site Vicinity	M-H	M-H	M	
Existing Commercial Uses, Site Area	M-H	M-H	H	
Existing Residential Uses, Site Vicinity	H	M-H	H	
Future Residential Uses, Site Area	H	M-H	M	
Existing Residential Uses, Site Area	H	H	H	High

A review of Table 3.1 reveals that factor ranking undertaken at this stage in the analysis is very similar to that undertaken for factors used during constraint mapping with respect to the principal land categories.

Among the three principal categories, residential uses represent the greatest constraint to facility siting because of the perceived high degree of risk and potential impact associated with residential development. The greater the number of residential units impacted, the higher the degree of constraint and, hence, the lower the ranking.



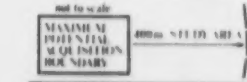
OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

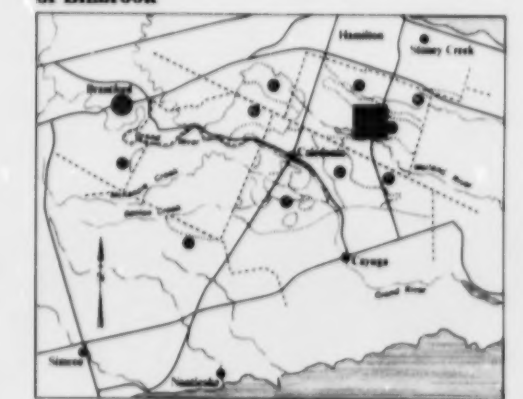
Legend:

Area Municipality	Existing Land Use
Official Plan	
Designation Boundary	R Residential Use
	C Commercial Use
	I Industrial Use
Zoning By-Law	(a) Notation
Zoning Boundary	
Zoning Categories	Land Ownership
Agricultural	Property Boundary
Industrial 4	Publicly Held Lands

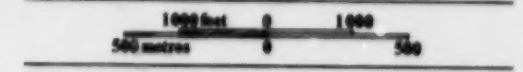
Note (a)
 Limit of area which contains the following
 Zoning Categories: Existing Residential, Residential
 Zones 1, 2 and 3, Commercial Zones 1 and 3, Industrial
 Zone 1, Institutional, Public and, Public Open Space.
 These limits correspond approximately to the built up
 Binbrook settlement.



Key Map: LF-4 West
 Lots 3, 4, 5; Concession IV (Block 4);
 Township of Glanbrook, formerly Township
 of Binbrook



Sources
 Property boundary information derived from the
 Hamilton-Wentworth Planning Area Board
 Township of Glanbrook 1973. This information is not
 necessarily current and should not be accepted as
 conclusive to title or the extent of title to these lands.



**Example of
 Existing Land Use, Land
 Ownership and Planning Status
 POTENTIAL SITE
 IDENTIFICATION**
 October 1984 **MAP K-19**

After undertaking this classification, and reviewing the data which emerged, it was clear that significant differences existed in the data, and that varying degrees of constraint were present within factors. It was therefore necessary to distribute the data which emerged under each factor into three levels of constraint: low, moderate, and high. The assignment of the data which emerged into each constraint category was determined by such aspects as the frequency of the particular land use, the relative compatibility of the land use or designation, and the distance of the site area from adjacent uses. These constraints, which were used in the rating of the 90 site areas, are presented below according to their level of constraint (low, moderate or high) as determined by the land use consultant.

Low Constraint

- o publicly owned land, site area.
- o existing compatible industrial uses, site vicinity (medium to heavy industrial).
- o existing minor industrial uses, site area (which might not be displaced).
- o future and planned compatible industrial uses (medium to heavy), site area (includes potential for industrial designation in special study areas).
- o future and planned compatible (medium to heavy) industrial uses, site vicinity.
- o small number of existing commercial uses in site area and in site vicinity (0-5).
- o small number of existing residences in site area or in site vicinity (0-10).
- o well removed from communities and major residential concentrations, i.e. over 2 kilometres distant.

Moderate Constraint

- o moderately sized industrial uses, site area (high probability of displacement).
- o some commercial uses, site area and site vicinity (6-10).
- o future and planned commercial uses, site area and site vicinity.
- o relatively close proximity to small residential clusters (within 1 kilometre).
- o some residences within site area and site vicinity (approximate range 11-24).
- o rural or agricultural designation, site area and site vicinity.
- o existing light and prestige industrial uses, site area and site vicinity.
- o planned and proposed light and prestige industrial uses, site area and site vicinity.
- o proximity to communities and major residential concentrations, 1 to 2 kilometres distant.
- o provincial planning area, site area (interpreted on a site area by site area basis).

High Constraint

- o future and planned residential uses (including residential/community designation) on site area or in site vicinity.
- o substantial number of residences on site and in site vicinity (25+).
- o major land uses within site area (which would be displaced).
- o substantial number of commercial uses, site area and site vicinity (11+).

- o close proximity to communities and major residential concentrations i.e. less than 1 kilometre distant.

RATING OF SITE AREAS

The preceding constraints were considered in relation to the 90 site areas in order to determine which constraints may have significant impacts on the site area. The significant constraints were categorized as low, moderate or high for the siting of OWMC facilities for each site area.

These constraints were then assessed to establish a rating for each of the 90 site areas. It was apparent, however, that there were no site areas which exhibited only low constraints to facility siting. The rating system, therefore, utilized a three-point range with respect to the suitability of that site area to accommodate the proposed OWMC facilities. The most suitable site areas were assigned a rating of 1, the moderately suitable site areas were assigned a 2, and those site areas judged least suitable were assigned a 3. Appendix H contains a listing of the significant land use constraints for each site area by the three levels of constraint, and a rating of the 90 site areas.

The following Table 3.2 summarizes the site areas by type of OWMC facility (landfill or partially integrated facility), and relative degree of suitability (most, moderately or least suitable).

TABLE 3.2
IDENTIFICATION OF POTENTIAL SITES
SUMMARY OF RATING OF SITE AREAS

1. MOST SUITABLE	2. MODERATELY SUITABLE	3. LEAST SUITABLE
<u>Landfill</u>		
LF - 1A1	LF - 1N	LF - 12C
- 2N	- 4N	- 24C
- 3N	- 5W	- 25C
- 10W	- 11W	- 29C
- 1C	- 14W	- 30C
- 2E	- 3C	- 1E
- 3E	- 8C	- 4E
- 6E	- 9C	- 9E
		- 10E
		LF - 2A1 LF - 2C
		- 2W - 13C
		- 3W - 15C
		- 4W - 18C
		- 7W - 7E
		- 13W - 8E
		- 12E

Partially integrated

PI - 1A1	PI - 2A1	PI - 5E	PI - 3A1
- 4N	- 1N	- 6E	- 15N
- 5N	- 2N	- 7E	- 1C
- 6N	- 3N	- 8E	- 2C
- 2W	- 10N	- 9E	- 11C
- 4E	- 11N	- 12E	- 15C
- 17E	- 12N	- 13E	- 19C
- 18E	- 13N	- 14E	- 22C
- 21E	- 14N	- 15E	- 25C
- 27E	- 21C	- 16E	- 10E
	- 26C	- 19E	- 11E
	- 1E	- 20E	- 31E
	- 2E	- 26E	- 34E
	- 3E	- 30E	- 37E

APPLICATION TO THE SITE SELECTION PROCESS

Table 3.2 indicates that a total of 18 site areas are rated as "most suitable" for OWMC facilities from a land use perspective. A total of 45 site areas are rated as "moderately suitable", and the "least suitable" category contains 27 site areas.

The site area rating tables as determined by the land use consultant were submitted to OWMC for inclusion with input from all other consultants. As a result of the evaluation conducted by the site selection team and OWMC, a total of 74 site areas were eliminated from further consideration. A total of 16 site areas were identified as potential sites for the proposed waste treatment facilities and were subjected to the initial comparative evaluation described in the next section of this report.

Of the 74 site areas eliminated by OWMC, land use considerations contributed in whole or in part to the exclusion of 41 site areas, while 33 were excluded for other reasons. The reasons for excluding these site areas are contained in the Site Selection Process - Phase 3B: Selection of Candidate Sites - Site Selection - Volume 2: Identification of Potential Sites report prepared by M.M. Dillon.

4. IDENTIFICATION OF CANDIDATE SITES

INTRODUCTION

This stage of work explored the relative differences among the potential sites and siting options in order to identify a short list of candidate sites. This process was known as initial comparative evaluation. The principal activities undertaken as part of this process were:

1. the development of more specific factors for the relative impact of OWMC facilities on the land use, land use planning and land ownership base of potential sites and their surrounding areas;
2. the undertaking of a more extensive data collection and analysis program on and around each site and along access roads to each site;
3. the development of a rating system which would distinguish between, and permit a comparison of, the land use, land use planning and land ownership impacts on the site, site vicinity and along local and regional access roads.

Many of the factors identified in the site area screening stage continued to be utilized in the initial comparative evaluation stage. Data obtained in the previous stages were supplemented with new data. The data used came from a variety of sources, including aerial photography, municipal land use control documents and reports, contacts with regional and area municipality planning staffs, registry offices, site appraisals and roadside observations made during site visits. Work continued to be undertaken primarily at a base map scale of 1:10 000, and at 1:50 000 for access roads.

FACTORS AND INDICATORS

From the standpoint of the development of factors, several essential differences between this and the preceding site screening stage permitted the refinement of the factors to be utilized. These were:

1. A more standardized basis was utilized for site sizing and defining site boundaries. Generally sites at this stage of the analysis were a minimum size of 110 hectares for landfill sites and 80 hectares for physical/chemical treatment plant/incinerator, with technical buffer. This standardization made possible a more meaningful comparison of the quantifiable characteristics between sites.
2. The possible land use impacts resulting from transportation of hazardous wastes over both local access roads (connecting the site to the regional road system) and regional access roads (connecting the site or local access roads to the freeway system) were considered.
3. Both fully integrated and partially integrated sites were compared. The landfill would be separate from the physical/chemical treatment plant and incinerator in the partially integrated option.
4. Costs, operations of the facilities and ease of site acquisition were considered relative to the land value of sites, land fragmentation and land ownership. Additional data were acquired to permit the utilization of these factors in the evaluation.
5. The concept of "indicators" as a subset of factors was introduced. Indicators became very specific measures of a factor, which, when considered in total, assisted in the comparison of sites based upon a factor.
6. A number of the land use factors which had previously been considered independently were considered collectively in the sense of their constituting a "future resource". For example, under the factor Future

Resources, three indicators were examined; Rural/Agricultural Land Use Designation, Provincial Planning Area and Class 1 Equivalents. The latter indicator was examined by the agricultural consultant.

Consistent with the general analysis procedures used by all of the consultants during this stage, factors were selected which related to the site, to the site vicinity and to the local and regional access roads. The site refers to the lands within the proposed acquisition area. The site vicinity includes only land parcels that fall within 1 000 meters of the boundary of the emissions area within an incinerator site or 500 meters of the boundary of a landfill. (Reference should be made to the report entitled Site Selection Process - Phase 3B: Selection of Candidate Sites - Site Selection; Volume 3 - Identification of Candidate Sites, prepared by M.M. Dillon Limited, for additional explanation on how these boundaries were employed).

Appendix I provides factor sheets describing in detail the definition, rationale, significance and method used to map each factor used in this stage of the process. The following Table 4.1 summarizes the selected factors and corresponding indicators. Following this table is a brief description of each factor and indicator utilized.

TABLE 4.1
Identification of Candidate Sites
Summary of Factors and Indicators

SITE FACTORS		INDICATORS
Existing Commercial and Industrial Uses	o	Industrial Facilities
	o	Commercial Facilities
Future Commercial and Industrial Uses	o	Planned and Proposed Industrial Facilities
	o	Planned and Proposed Commercial Facilities
Existing Residents	o	Number of Residences Displaced

Future Residents

- o Projected Population Levels
- o Approved Residential Plans of Subdivision
- o Residential Land Use Designation
- o Residential Zoning
- o Residential Development Proposals

Land Acquisition

- o Land Value
- o Land Fragmentation
- o Land Ownership

Future Resources

- o Rural/Agricultural Land Use Designations
- o Provincial Planning Areas

SITE VICINITY FACTORS

**Existing Commercial and
Industrial Uses**

- o Industrial Facilities
- o Commercial Facilities

**Future Commercial and
Industrial Uses**

- o Planned and Proposed Industrial Facilities
- o Planned and Proposed Commercial Facilities

Existing Residents

- o Number of Residences

Future Residents

- o Projected Population Levels
- o Approved Residential Plans of Subdivision
- o Residential Land Use Designation
- o Residential Zoning
- o Residential Development Proposals

Future Resources

- o Rural/Agricultural Land Use Designation

**Existing Community Character
and Lifestyle**

- o Land Use Pattern

ACCESS ROADS - LOCAL

- | | |
|---|---|
| Existing Commercial and Industrial Uses | <ul style="list-style-type: none">o Distance Through Industrial Areaso Distance Through Commercial Areas |
| Future Commercial and Industrial Uses | <ul style="list-style-type: none">o Distance Through Designated Industrial Areaso Distance Through Designated Commercial Areas |
| Existing Residents | <ul style="list-style-type: none">o Number of Residenceso Distance Through Strip Residential Development |
| Future Residents | <ul style="list-style-type: none">o Distance Through Residential Land Use Designation |

ACCESS ROADS - REGIONAL

- | | |
|--------------------|--|
| Existing Residents | <ul style="list-style-type: none">o Distance Through Strip Residential Development |
|--------------------|--|

SITE FACTORS

Existing Commercial and Industrial Uses

1. Industrial facilities. The number and type of existing light, medium and heavy industrial uses were considered. Industrial uses are generally characterized by noise, some airborne emissions, rail and truck traffic. The proposed OWMC facilities, except for the landfill, are essentially industrial in character and have a substantial degree of compatibility with many existing industrial uses. Capital investment in industrial uses is generally intensive. Potential loss of industrial employment to a municipality would be a policy concern.

2. Commercial facilities. Existing commercial uses include shopping centres, stores, offices, personal service uses and related activities. Capital investment in commercial facilities is generally intensive. Expropriation may, therefore, be both difficult and costly. Loss of commercial employment would also be a policy concern.

Future Commercial and Industrial Uses

1. Planned and proposed industrial facilities. This indicator represents potential uses of the site which may have a substantial degree of compatibility with waste management facilities. Planned industrial facilities may not be a constraint. An Industrial designation in an official plan may represent a siting opportunity.

2. Planned and proposed commercial facilities. This indicator represents uses which are very likely to be incompatible with OWMC facilities and as such represent a significant constraint. Private investment may have been committed to development of such uses on the basis of existing official plan designations.

Existing Residents

1. Number of residences displaced. This indicator is the number of housing units, both farm and non-farm, which would be displaced. It is the most easily measured indicator of personal dislocation to be anticipated.

Future Residents

1. Projected population levels. This indicator is normally expressed in the official plan or secondary plan of the area municipality in terms of persons or housing units. Future residents would be an important constraint.

2. Approved residential plans of subdivision. This indicator includes plans for residential subdivisions which have municipal and provincial approval. Approved plans indicate a high degree of commitment for future development. Private investment may have been committed on the basis of these plans. OWMC facilities would not be compatible with residential built-up areas.

3. Residential land use designations. This indicator reflects designations in area municipality official plans for residential uses, existing or future. The regions of Halton, Hamilton-Wentworth, Haldimand and Niagara have approved regional official plans. These indicate limits of future urban development. In most instances, the official plans of area municipalities are in conformity with those of the regional municipalities. Residential designation of a site in an official plan is a major constraint.

4. Residential zoning. This indicator includes lands that have been zoned for residential uses by area municipality zoning by-laws. Lands zoned for residential uses do not normally allow industrial uses. Such zoning indicates a strong commitment for future residential development and commonly reflects existing residential development.

The impact of residential zoning as a constraint will vary depending on the number or density of residential units permitted under the zoning.

5. Residential development proposals. This indicator reflects private intentions to develop lands as evidenced by application for planning approval of development. It includes official plan amendments, draft plans of subdivision, and rezoning applications which are pending approval by the area municipality, regional municipality, Minister of Municipal Affairs and Housing or the Ontario Municipal Board.

The impact of development proposals varies according to the size and likelihood of approval.

Provincial Planning Areas

Two provincial planning areas are of significance in the northern sector of the study area: the Parkway Belt West Plan, and the Niagara Escarpment Commission (NEC) Plan. The implications of these plans are fully described in Chapter 2 of this report.

Land Acquisition

1. **Land value.** This indicator is the appraised value of each site, which takes into account the present use of the site and, recent sales of comparable properties. As a public agency responsible for the expenditure of public funds, it is a responsibility of OWMC to minimize expenditures where feasible. Sites with lower land values would generally be viewed somewhat more favourably than sites with high land values, all other factors being equal. High land value is not, however, a major constraint. OWMC requested that the firm of Graydon Rodgers Appraisals Ltd. provide land appraisals for 11 of the 16 potential sites. These appraisals are on file with OWMC.

2. **Land fragmentation.** This indicator is a measure of the degree of division of land into increasingly smaller property holdings. The degree of fragmentation can be measured by the average parcel size or the number of parcels per site. The higher the degree of fragmentation of the site, the greater the degree of difficulty anticipated in assembling the site.

3. **Land ownership.** This indicator addresses the possibility of location of OWMC facilities on publicly owned land. This would involve less acquisition of land in private ownership and therefore less dislocation of individuals. Public ownership of all or part of a site may facilitate acquisition and therefore represents a siting opportunity.

Future Resources

1. Rural/Agricultural land use designations. Official plan designations for the site lands are an indication of the community's intentions in the short to medium term future for appropriate land uses. Designation as prime agricultural land indicates a high priority for the protection of the agricultural resources and may represent a siting constraint. Rural designations, where this is based on low agricultural capability, may indicate a siting opportunity.

SITE VICINITY FACTORS

Existing Commercial and Industrial Uses

1. Industrial facilities. This indicator measures existing industrial uses. Heavy industrial uses are generally less sensitive and light industrial uses much more sensitive to impact from OWMC facilities, the latter because of worker populations, sensitive industrial processes and visual intrusion and incompatibility.

The impact of existing industrial uses is therefore highly dependent upon the nature of the use. It may represent either a constraint or a siting opportunity.

2. Commercial facilities. This indicator includes existing uses such as shopping centres, offices, and personal service uses, which are not generally compatible with industrial uses. Capital investment in commercial facilities is generally intensive and the potential elimination of commercial businesses is a concern.

Potential impact on existing commercial facilities is highly dependent upon the nature of the use.

Future Commercial and Industrial Uses

1. Planned and proposed industrial facilities. This indicator includes planned and proposed industrial uses. The waste management facilities, except for the landfill, are essentially industrial in nature and as such may be suitably located in proximity to other industrial uses.

2. Planned and proposed commercial facilities. This indicator measures planned commercial facilities. These are generally not considered to be compatible with waste management facilities. The indicator represents a moderate constraint, however, as mitigation is more likely to occur with future development than with existing.

Existing Residents

1. Number of residences. This is the most easily measured indicator of the amount of residential exposure to be anticipated in the event of location of a waste management facility in the area. Residents are sensitive to emissions, noise, increased truck traffic and other characteristics of industrial type facilities in their vicinity.

A large number of existing residents in the site vicinity would represent a major constraint.

Future Residents

1. Projected population levels. Area municipality official plans are the primary source of information on this indicator, as noted in the site factor description. Waste management facilities are generally not compatible with populated areas. The number of future residents is a major policy and public concern because of the high importance given by OWMC to minimizing risk to humans and therefore is a significant constraint.

Depending on the term of projections and investment by the private sector in anticipation of realization of these projections, there may be leeway for mitigation.

2. Approved residential plans of subdivision. Approved plans are an indicator of commitment for development in the short term and are therefore a major constraint to facility location.

3. Residential land use designations. This indicator reflects lands designated for residential uses which may be a major constraint.

4. Residential zoning. This indicator reflects the impact of residential zoning in the site vicinity. This will vary depending on the density or number of units permitted under the zoning. In some cases the zoning reflects only individual isolated residential uses, and in other cases, clusters of residential uses.

5. Residential development proposals. This indicator is the same as described under site factors. The importance of the factor will vary according to the size and likelihood of approval of the applications.

Future Resources

1. Rural/Agricultural land use designations. Official plan designations for the site lands are an indication of the community's intentions in the short to medium term future for appropriate land uses. Designation as prime agricultural land indicates a high priority for the protection of the agricultural resources and therefore may represent a siting constraint. Rural designation, where this is based on low agricultural capability, may indicate a siting opportunity.

Existing Community Character and Lifestyle

1. Land use pattern. This indicator refers to the general overall mix of land uses within the vicinity of potential sites, and is particularly relevant in instances where the sites are close to rural settlements and residential areas or are within or adjacent to industrial areas.

This indicator provides an indication of land use compatibility or conflicts in the area, and the general character of the community and the development potential of certain land parcels. The impact on existing community character is potentially a major constraint to siting.

LOCAL ACCESS ROADS

The factors and indicators for local access roads are similar to the corresponding factors and indicators for site vicinity with the exception that existing community character and lifestyle - land use pattern was not examined, and rural/agricultural land use designations was not a factor.

The difference in application of the factors is that, instead of being applied to areas defined by the site and vicinity boundaries, they are applied to the lands immediately fronting both sides of the local access roads. The length of road(s) varies from site to site.

In the case of existing residents, the number of individual residences as well as the length of continuous strip residential development is considered in such a manner that no double counting of residences occurs.

REGIONAL ACCESS ROADS

Only one factor was considered for regional access roads, that being the total distance through continuous strip residential development.

DATA COLLECTION AND ANALYSIS

SITE AND SITE VICINITY

Site Size

The size of each potential site was measured on 1:10 000 scale base maps and checked against the assessment roll information on land parcel size.

Existing Land Use

Existing land uses, including industrial, commercial, residential and other uses, were recorded on the basis of site visits and confirmed with 1:10 000 (1978) and 1:30 000 (1982 and 1983) scale air photographs.

Existing Residences

The location of all existing residences was plotted from field observation and confirmed from 1:10 000 and 1:30 000 air photographs.

Development Applications

Applications for planning approval of industrial, commercial, residential and other developments were recorded from information and development status reports obtained from area and regional municipality planning staffs or in some instances, from planning consultants for the smaller municipalities.

Proposed official plan amendments, draft plans of subdivision, and rezoning applications were also recorded.

Future Land Use

Future industrial, commercial, residential, agricultural, rural and other land uses are set out in area and regional municipality official plans and zoning by-laws. This documentation was obtained by the consultants in the summer of 1983 and was supplemented through ongoing contacts with municipal planning staff.

Additional information was obtained for municipalities, such as Niagara Falls, where official plan review and updates are in progress, and from other municipalities where relevant official plan amendments were in process, such as the Township of Wainfleet.

Official plan designations were recorded on 1:10 000 scale base maps.

Future Residents

Area municipality official plans were consulted for population projections and future residential land use designations. Residentially zoned lands were identified from municipal zoning by-laws. Approved and registered residential plans of subdivision were obtained from municipal planning staff. Registered plans were obtained from registry offices.

Land Fragmentation

Assessment mapping for a large number of sites had been obtained during the previous stage. This information was supplemented as required.

The consultants reviewed the records of Regional Assessment offices to record land ownerships within the sites and site vicinity areas. Municipal records were also consulted and Registry office searches undertaken in instances where data were unavailable elsewhere. Ownership parcels for sites were mapped. The mapping obtained from Regional assessment offices had varying dates of preparation, from the early 1970's to the present.

The data were analyzed to determine the number of parcels within the boundary of the potential site, the total area which would need to be acquired and the average parcel size.

Land Ownership

The tenant and/or name of the owner of each property was identified from assessment records and the name and address recorded. The assessment records used during this work were prepared from data collected in 1982. The lands in public ownership were identified and calculated as a percentage of the total site area.

Land Value

Data on land values were obtained from two primary sources, site appraisals and contacts with municipalities. In addition, the records of farm sales by municipality were reviewed.

Property Appraisals

Property appraisals were undertaken for 11 of the potential sites by Graydon Rodgers Appraisals Ltd. These appraisal reports are on file with OWMC.

Municipalities

The Region of Hamilton-Wentworth was contacted regarding the selling price of serviced industrial lots in the Duff's Corners Industrial Area in the Town of Ancaster.

The Regional Niagara Industrial Directory was consulted regarding the price of industrial land in that region.

Ministry of Agriculture and Food

The Ministry undertook an analysis of farmland sales data for 14 area municipalities. The data for 1980 and 1981 were combined to achieve a greater sample size.

LOCAL ACCESS ROADS

Existing Land Use

Existing land uses were recorded in the same manner as for potential sites, for the frontage of the local access roads. All data relating to local access roads were recorded on 1:50000 base maps.

Existing Residences

Residences fronting on the local access road were recorded on 1:50000 base mapping. Where residences formed a continuous strip of residential development, the length of the residential strip was recorded rather than the individual residences so that no double counting of residences occurred.

Development Applications

Development applications were recorded in the same manner as for potential sites.

Future Land Use

Future land uses were recorded in the same manner as for potential sites, but only for the frontage along the local access roads. The frontage of each non-agricultural future land use along the access roads was measured.

Future Residents

Data were recorded as they were for the potential sites, but only along the frontage of the access roads.

REGIONAL ACCESS ROADS

Existing Residences

Existing residences in strip residential development were recorded in the same manner as for the local access roads and were recorded on 1:50 000 base mapping.

SUMMARY OF DATA COLLECTION

The data collected during this stage in the analysis are presented in both tabular and mapped form. The set of three tables in Appendix J set out the data obtained from the site investigations and other data gathering undertaken during the site selection stage.

The data are set out in three tables as follows:

- . Site Area Factors/Indicators
- . Site Vicinity Factors/Indicators
- . Local and Regional Access Road Factors/Indicators

Within each table, the data are organized into sets of factors and indicators which correspond to the factors and indicators discussed earlier in this chapter.

Maps K-20 to K-55 in Appendix L of this report present the mapped results of this data collection for each potential site. Two maps are presented for each site, entitled Existing Land Use and Land Ownership, and Planning Status.

RANKING OF FACTORS

The next step in the identification of potential sites was to consider the degree to which each of the factors and indicators represented a siting constraint or opportunity. In undertaking this ranking of factors, it was first necessary to review the data collected to determine whether any factors and indicators should be dropped from further use in the analysis due to a lack of data emerging for any of the sites. It was apparent from previous stages of the site selection process that site area lands affected by certain residential factors and indicators had already been eliminated from further consideration. Therefore, no data would be forthcoming. This was the case for the following indicators of the Future Residents factor:

- . approved residential subdivisions, site and site vicinity
- . projected populations levels, site
- . residential land use designations, site
- . residential zoning, site
- . residential development proposals, site and site vicinity

The results of the data collection showed other indicators to be of very limited significance. Residential zoning in the site vicinity, for example, was found to be coincident with existing residential uses which were already being taken into account by another indicator.

In the case of local access roads, it was determined that few of the local access roads traversed existing or future industrial or commercial areas. Also, because these land uses would not be affected by additional truck traffic as would residential uses, it was concluded that factors and indicators related to

industrial and commercial uses along local access routes would not have a significant bearing on the ranking of access routes.

For these reasons, the following factors and indicators were not used in the analysis:

- . residential zoning, site vicinity
- . distance through existing commercial areas, local access roads
- . distance through existing industrial areas, local access roads
- . distance through designated commercial areas, local access roads
- . distance through designated industrial areas, local access roads
- . future commercial uses, site and site vicinity

Following the elimination of these factors and indicators an assessment was made of the remaining factors and indicators based upon the two aspects of constraint (risk and impact) and the aspect of confidence. Each of these aspects of constraint was ranked low, medium or high for all factors and indicators. These are summarized in Table 4.2 (page 71). The classifications were based on the consultant's judgment with respect to risk, impacts on land use activities, and confidence with respect to the accuracy and degree of homogeneity of the data, and the long-term stability of the factor.

After undertaking this classification, and reviewing the data which emerged, it was clear that significant differences existed in the data, and that varying degrees of constraint were present within factors. It was therefore necessary to distribute the data which was present in each indicator into three levels of constraint: low, moderate and high. The assignment of the data which emerged into each constraint category was determined by such aspects as the frequency of the particular use, the relative compatibility of the land use or designation, and the distance of the potential site from adjacent uses. These constraints, which were used to rate the siting options, are presented below by the level of constraint.

TABLE 4.2

Identification of Candidate Sites
Summary of Factor Indicator Classification

	<u>Risk</u>	<u>Impact</u>	<u>Confidence</u>	<u>Constraint</u>
*Land Values, Site	L	L	M-H	 Low High
Planned Industrial Facilities, Vicinity	L	L	M	
Existing Industrial Facilities, Vicinity	L	L	H	
*Provincial Planning Areas, Site	L	L-H	M	
*Land Fragmentation, Site	L	L-H	H	
*Land Ownership, Site	L	L-H	M-H	
*Land Use Pattern, Vicinity	L-H	L-H	M	
Planned Industrial Facilities, Site	L	L-M	M	
Rural/Agricultural Designation, Vicinity	L	L-M	M	
Rural Agricultural Designation, Site	L	L-M	M	
Existing Industrial Facilities, Site	L-M	L-M	H	
Distance Through Residential Designations, L.A.	M	L-M	L-M	
Distance through Strip Residential, R.A.	M	L-M	H	
Existing Residences, L.A.	M	L-M	H	
Distance through Strip Residential, L.A.	M	L-M	H	
Existing Commercial Facilities, Vicinity	M	M-H	H	
Projected Population Levels, Vicinity	M-H	M-H	L-M	
Residential Land Use Designation, Vicinity	M-H	M-H	L-M	
Existing Commercial Facilities, Site	M-H	M-H	H	
Existing Residences, Site	M-H	H	H	
Existing Residences, Vicinity	H	M-H	H	

* Factor-Indicator for which the variability in data will have a greater impact on site ranking than the factor ranking.

Note: L.A. - Local Access Road

R.A. - Regional Access Road

L - Low

M - Moderate

H - High

LOW CONSTRAINTS

Landfill/Integrated

Site.

- . number of residences displaced 0 - 10
- . no industrial relocation
- . no commercial relocation
- . land value - up to \$5 000/acre
- . land fragmentation - up to 10 parcels
- . land ownership - public
- . industrially designated

Site vicinity.

- . number of residences 0 - 15
- . land use pattern - vacant or agricultural with industrial or other significant non-farm uses
- . industrial or agricultural land use designation
- . planned and proposed industrial facilities
- . industrial facilities

Access roads - local.

- . number of residences 0 - 10
- . distance through strip residential development - 0 km
- . distance through residential designation - 0 km

Access roads - regional.

- . distance through strip residential development - 0 km

Physical/Chemical Treatment Plant/Incinerator

Site.

- . number of residences displaced 0 - 10
- . no industrial relocation

- . no commercial relocation
- . land value - up to \$5 000/acre
- . land fragmentation - up to 10 parcels
- . land ownership - public
- . industrially designated

Site vicinity.

- . number of residences 0 - 15
- . medium or heavy industrial facilities
- . land use pattern - vacant or agricultural, with industrial or other significant non-farm uses
- . projected population levels - 0
- . planned and proposed industrial facilities
- . industrial land use designation

Access roads - local.

- . number of residences 0 - 10
- . distance through strip residential development - 0 km
- . distance through residential designations - 0 km

Access roads - regional.

- . distance through strip residential development - 0 km

MODERATE CONSTRAINTS

Landfill/Integrated

Site.

- . number of residences displaced 11 - 15
- . land value - \$5 000 to \$20 000/acre
- . land fragmentation - 10 to 20 parcels
- . land ownership - private
- . rural/agricultural designation

Site vicinity.

- . number of residences 16 - 24
- . land use pattern - agricultural/rural
- . rural/agricultural or industrial land use designation
- . existing industrial facilities

Access roads - local.

- . number of residences 11 - 20
- . distance through strip residential development - up to 0.5 km
- . distance through designated residential areas - up to 0.5 km

Access roads - regional.

- . distance through strip residential development - up to 4 km

Physical/Chemical Plant/Incinerator

Site.

- . number of residences displaced 11 - 15
- . land values - \$5 000 to \$20 000/acre
- . land fragmentation - 10 to 20 parcels
- . land ownership - private
- . rural/agricultural designation
- . existing medium industrial facilities

Site vicinity.

- . number of residences 16 - 24
- . land use pattern - agricultural/rural
- . projected population levels - more than 0
- . rural/agricultural or industrial land use designation
- . existing medium industrial facilities

Access roads - local.

- . number of residences 11 - 20
- . distance through strip residential designations - up to 0.5 km

Access roads - regional.

- . distance through strip residential development - up to 4 km

HIGH CONSTRAINTS

Landfill/Integrated

Site.

- . number of residences displaced - over 15
- . existing commercial facilities
- . land value - over \$20 000/acre
- . land fragmentation - over 20 parcels
- . land ownership - private
- . rural/agricultural designation

Site vicinity.

- . number of residences - over 25
- . existing commercial facilities
- . land use pattern - agricultural, non-farm residential
- . residential land use designation

Access roads - local.

- . number of residences - over 20
- . distance through strip residential development - over 0.5 km
- . distance through designated residential areas - over 0.5 km

Access roads - regional.

- . distance through strip residential development - over 4 km

Physical/Chemical Treatment Plant/Incinerator

Site.

- . number of residences displaced - over 15
- . rural/agricultural land use designation
- . land fragmentation - over 20 parcels
- . land ownership - private
- . existing commercial facilities
- . land value - over \$20 000/acre

Site vicinity.

- . number of residences - over 25
- . major existing commercial facilities
- . projected population levels - more than 0
- . residential land use designation
- . land use pattern - agricultural, clusters of residences beyond site vicinity

Access road - local.

- . number of residences - over 20
- . distance through strip residential development - over 0.5 km
- . distance through designated residential areas - over 0.5 km

Access road - regional.

- . distance through strip residential development - over 4 km

RANKING OF ACCESS ROUTES

RANKING PROCESS

To assist in the evaluation of the seventeen (17) siting options and to determine which access routes would be examined in Phase 4A, the access routes to each site were reviewed and ranked. This ranking process involved an assessment of the factors and indicators identified for both local and regional access routes to determine preferred routes from a land use perspective.

One or more potential access routes to each of the 16 potential sites and between potential sites which are partially integrated were identified by OWMC. These routes utilized a variety of regional and, in some cases, local access roads. The access routes to each site are described in full in the Site Selection Process: Phase 3B -Selection of Candidate Sites - Transportation report prepared by M.M. Dillon Limited. The factors, indicators and observed results for the access routes to the 16 sites and 17 siting options are contained in Appendices I and J.

It was determined that some routes had more significant land use implications than others, particularly in terms of potential impacts on residential and other forms of development. The ranking system rates each of the access route options relative to the others to determine preferred routes for that site.

In addition to the local and regional access route factors and indicators, population figures for all of the communities traversed by these routes were utilized. These figures, as obtained from the socio-economic consultants, the Institute of Environmental Research, were used to determine the potential scale of disruption in each community. It is concluded that the potential impacts on larger communities would be more widespread than for smaller communities.

Generally, the greater the number of residences affected, and the greater the travel distance through residential uses and designations (especially large communities), the lower the ranking of that access route. It is noted, however, that there are very few occurrences of non-residential land uses and designations along the local access routes to the 16 potential sites. Therefore, the ranking of access routes is based primarily on potential impacts to residential development as measured by the total number of residences on local roads, the total distance through residential strip development and residential designations, and the total population of the affected communities.

RESULTS OF RANKING

The ranking of access routes to each of the potential sites is contained in the following assessments. Each assessment includes a relative ranking of the route alternatives from most suitable to least suitable. No attempt is made to compare access routes between alternative sites. Where differentiation between access routes is not readily discernable on the basis of the factors and measures utilized at this stage of the analysis, group rankings are used.

1. **To LF-4N:**

Eight (8) access alternatives were identified. Of these, routes (1) through (5) are from the north (from Highway 401) and (6) through (8) from the south (from Q.E.W. and Highway 403).

RANKING:

MOST SUITABLE

- | | |
|-----------|---|
| Route (3) | (Fourth Line Road) is quite direct, has low impact potential on residential development, but utilizes a local rather than regional road. |
| Route (4) | (Fourth Line-Derry Road-Fifth Line) is slightly longer than (3), and traverses Omagh (population approximately 30). |
| Route (5) | (from Highway 401 via Trafalgar Road) is less direct than (4), more residential strip development along route. |
| Route (8) | (from QEW via Highway 25) - more direct than (5) but traverses Palermo (population 200). |
| Route (6) | (from Highway 403) - slightly longer than (5) or (6), and skirts residential subdivision development in Meadowvale (population approximately 22 000). |
| Route (2) | (Tremaine Road) - quite direct, little residential development along route, but skirts edge of Milton (population 30 000). |

Route (1) (First Line) - also quite direct, but utilizes local roads directly through Milton (population 30 000).

**LEAST
SUITABLE**

Route (7) (from QEW via Trafalgar Road) - less direct, traverses Oakville (population 77 000).

From LF-4N to PI-1N

- single access route option.

From LF-4N to PI-13N

- single access route option.

2. To LF-2N

Two (2) access options, one each from Highways 401 and 410.

RANKING:

Route (1) (via 401) and Route (2) (via 410) both use regional access roads and no local roads. Impact potential is considered to be similar. Both access routes are rated equally.

From LF-2N to PI-1A1

RANKING:

**MOST
SUITABLE**

Route (2) (Derry-Dixie-Steeles-Airport) - no residential communities impacted.

**LEAST
SUITABLE**

Route (1) (Derry-Airport Road) - traverses Malton (population 33 000).

From LF-2N to PI-13N

RANKING:

MOST

SUITABLE

Route (3)

(Fourth Line-Derry-Fifth Line) avoids residential development in Omagh (population 30), but has some local road impacts.

Route (1)

(Trafalgar Road) limited local road impacts, but traverses Drumquin (population 25).

LEAST

SUITABLE

Route (2)

(Fourth Line) - traverses Omagh, and more local residences impacted.

From LF-2N to PI-1N

RANKING:

MOST

SUITABLE

Route (2)

(Fourth Line) - quite direct route, limited residential impact.

Route (1)

(Trafalgar Road) - less direct, more residential impact.

Route (4)

(Tremaine Road) - more direct than (1), but skirts edge of Milton (population 30 000).

LEAST

SUITABLE

Route (3)

(First Line) - utilizes local roads directly through Milton.

3. To PI-1N

Seven (7) access route alternatives were identified, 4 from the north and 3 from the south. In regard to the two siting options, no significant difference is noted between access routes to PI-1a-North and PI-1b-North. The routes to these site options are, therefore, ranked equally.

RANKING:

**MOST
SUITABLE**

- | | |
|-----------|---|
| Route (3) | (Fourth Line) - quite direct, limited residential impact, but utilizes local road. |
| Route (4) | (Highway 401 via Trafalgar Road) - less direct, slightly more residential impact. |
| Route (7) | (QEW via Highway 25) - more direct than (4), but traverses Palermo (population 200). |
| Route (5) | (from Highway 403) - slightly longer than (4), and (7), and skirts residential subdivision development in Meadowvale (population approximately 22 000). |
| Route (2) | (Tremaine Road) - quite direct, little strip residential development, but skirts edge of Milton (population 30 000). |
| Route (1) | (First Line) - also quite direct, but utilizes local roads directly through Milton. |

**LEAST
SUITABLE**

- | | |
|-----------|---|
| Route (6) | (QEW via Trafalgar Road) - less direct, traverses Oakville (population 77 000). |
|-----------|---|

4. To PI-13N

Six (6) access route alternatives were identified, three each from the north and south. Routes (1) to (3) are to the north to Highway 401 and Routes (4) and (6) are to the south to the QEW and Highway 403.

RANKING:

MOST

SUITABLE

Route (2) (Fourth Line-Derry-Fifth Line) - quite direct, limited residential impact, avoids Omagh, but utilizes local access road.

Route (1) (Fourth Line) - similar to (2), but traverses Omagh.

Route (3) (Highway 401 via Trafalgar Road) - quite direct, regional access road, but traverses Drumquin (population 25) and other residential strip development.

Route (6) (QEW via Highway 25) - longer route than (4), more residential strip development.

Route (4) (from Highway 403) - more direct than route (6), but skirts residential subdivision development in Meadowvale (population approximately 22 000).

LEAST

SUITABLE

Route (5) (QEW via Trafalgar Road) - more direct than (6) but traverses Oakville (population 77 000).

5. To PI-1A1

There are four (4) route alternatives, two each from Highway 401 and 410. Routes (1) and (2) are from Highway 401, and routes (3) and (4) are from Highway 410.

RANKING:

MOST

SUITABLE

Route (2) (from Highway 401 via Dixie Road) and
Route (4) (from Highway 410 via Dixie Road) are preferred as
they avoid Malton (population 33 000).

LEAST

SUITABLE

Route (1) (from Highway 401 via Airport Road) and
Route (3) (from Highway 410 via Airport Road) both traverse
Malton (population 33 000).

6. To LF-10W

There is only one identified access route alternative. In terms of the two
siting options, Site LF-10a-West is preferable to LF-10b-West as there are
fewer residences affected along the local access road.

From LF-10W to PI-2W

- single access route option.

7. To LF-11W

- single access route option.

From LF-11W to PI-2W

- single access route option.

8. To PI-2W

- single access route option.

9. To LF-1C

There are three (3) access route alternatives identified, one of which is
directly to the QEW, while two access Highway 406.

RANKING:

MOST

SUITABLE

Route (2) (proposed Highway 406) - circuitous route, but
avoids most strip residential locations.

LEAST SUITABLE	Route (1)	(QEW via Regional Road 24) - most direct but traverses Vineland (population 1 200) and other strip residential areas.
	Route (3)	(from Highway 406) - travels through centre of Welland (population 45 500) and other strip residential areas.

10. To LF-3C

There are nine (9) access route alternatives, all of which utilize the QEW.

RANKING:

MOST SUITABLE	Route (1)	(Regional Road 24-Highway 20) - lengthy route, but bypasses major residential population centres other than Vineland (population 1 200).
	Route (3)	(Regional Road 18) - more direct than (1), but traverses Beamsville (population 5 000).
	Route (2)	(Regional Road 24/Canborough Road) - similar to (1), but also traverses Wellandport (population 200) - less direct than (3).
	Route (7)	(Regional Road 12 - Regional Road 14) - traverses Grimsby (population 16 000) and Smithville (population 2 000) but more direct than most routes.
	Route (5)	(Regional Roads 14-714-16) - also quite direct, but travels further through Grimsby than (7).
	Route (4)	(Regional Road 14-Highway 20) - less direct than (5).
	Route (6)	(Regional Road 12-Regional Road 27) - similar to, but less direct than, (4).

- Route (9) (Regional Roads 14-81-27) - longer route than (4), travels through Grimsby/Lincoln for greater distance.
- LEAST SUITABLE** Route (8) (Regional Roads 14-81-16) - slightly more direct than (9), but travels through Smithville for considerably greater distance.

11. To LF-8C

There are six (6) access route alternatives, all of which utilize the QEW.

RANKING:

- MOST SUITABLE** Route (1) (Regional Road 24-Highway 20) - is direct and avoids most residential population centres other than Vineland (population 1 200).
- Route (2) (Regional Road 24-Canborough Road) - similar to (1), but traverses additional strip residential development in Boyle.
- Route (3) (Regional Road 18) - fairly direct, but traverses Beamsville (population 5 000), St. Ann's (population 75) and Bismarck (population 50).
- Route (4) (Regional Roads 14-714) - less direct than (3) and traverses Grimsby (16 000) and Smithville (2 000).
- Route (5) (Regional Road 12) - longer route than (4) and travels through Smithville for greater distance.
- LEAST SUITABLE** Route (6) (Regional Roads 14-81) - less direct than (4) and travels through Grimsby/Lincoln for greater distance.

12. To LF-9C

There are five (5) access route alternatives identified for this site. Ranking of access routes for this site is similar to that for LF-8C due to their relative proximity.

RANKING:

MOST

SUITABLE

Route (1) (Regional Road 24) - most direct route, avoids most major residential population areas other than Vineland (population 1 200).

Route (2) (Regional Road 18) - fairly direct, but traverses Beamsville (population 5 000), St. Ann's (population 75) and Bismarck (population 50).

Route (3) (Regional Roads 14-714) - less direct than (2) and traverses Grimsby (population 16 000) and Smithville (population 2 000).

Route (4) (Regional Road 12) - longer route than (3), travels through Smithville for greater distance.

LEAST

SUITABLE

Route (5) (Regional Roads 14-81) - less direct than (3), travels through Grimsby/Lincoln for greater distance.

13. To LF-1E

There are three (3) access route alternatives to this site. One access route utilizes the QEW, while the other two utilize Highway 406. With regard to the two siting options, the access routes to site LF-1a-East are preferable to those of LF-1b-East since fewer residences are affected.

RANKING:

MOST

SUITABLE

Route (2) (from QEW) is very directly accessible from the QEW, although a local road is utilized.

	Route (3)	(proposed Highway 406) if built, would virtually by-pass the City of Welland (population 45 500), but does traverse some strip residential development.
LEAST SUITABLE	Route (1)	(from Highway 406) - travels through the centre of Welland's commercial and residential core area.

14. To PI-18E

There are two (2) access route alternatives to this site, both of which utilize Highway 406.

RANKING:

MOST SUITABLE	Route (1)	(proposed Highway 406) - if built, Welland area is virtually by-passed.
LEAST SUITABLE	Route (2)	(Highway 406) - travels through core of Welland (population 45 500).

15. To LF-3E

There are three (3) access route alternatives to this site, one of which accesses the QEW, and the other two utilize Highway 406.

RANKING:

MOST SUITABLE	Route (2)	(from QEW) - directly accessible from the QEW, removed from residential development.
	Route (3)	(from proposed Highway 406) - if built, would virtually by-pass the City of Welland (population 45 500), but does traverse some strip residential development.
LEAST SUITABLE	Route (1)	(from Highway 406) - travels through the centre of Welland's commercial and residential core area.

16. To PI-27E

There are three (3) access route alternatives to this site, one of which accesses the QEW, and the other two access Highway 406.

RANKING:

**MOST
SUITABLE**

Route (2) (from QEW) - directly accessible from QEW, removed from residential development.

Route (3) (from proposed Highway 406) - if built, would virtually by-pass commercial and residential core of Welland (population 45 500).

**LEAST
SUITABLE**

Route (1) (from Highway 406) - travels through core of City of Welland.

APPLICATION TO SITE SELECTION PROCESS

In some cases, there are clearly preferable access routings to the 16 potential sites. In other cases, several access route options should be studied in greater detail in the next phase of the study to determine the most suitable routes from a land use perspective.

The data derived from the study and ranking of access routes was used to assist the land use consultant to rate the siting options. In addition, the data was provided to the site selection team and was used by the team together with the input from other consultants to recommend those access routes which should be further analysed in Phase 4A. The access route options are discussed in Phase 3B: Selection of Candidate Sites - Site Selection: Volume 3 - Identification of Candidate Sites report prepared by M.M. Dillon Limited.

RATING OF POTENTIAL SITES

RATING PROCESS

The consultants undertook a rating of the 17 siting options for the 16 sites (7 integrated and 9 partially integrated sites) based on the factors and indicators for which significant data emerged and in accordance with the ranking of factors which was undertaken. These integrated sites and combinations of landfills and physical/chemical-incinerator sites were described as "siting options".

The constraints inherent in each of the siting options were evaluated according to the factors and indicators, giving greatest weight to those which were ranked as representing the highest constraint to the location of OWMC facilities.

It was apparent that there were no potential sites which exhibited only low constraints to facility siting, i.e., sites that combined an industrial designation, low house counts on site and in site vicinity, and access routes with little residential development. Even the least constrained sites had some moderate and high constraints to facility siting.

Based on an examination of all of the siting options, it became evident that the options could be divided into three groupings representing least constrained (most suitable), moderately suitable and most constrained (least suitable) options.

Each siting option has been classified as falling into one of these three categories. The sites have not been ranked within each category and are not listed in any order. The results of the rating of the 17 siting options are summarized in the following Table 4.3.

TABLE 4.3

Identification of Candidate Sites
Summary of Rating of Siting Options

Most Suitable	Moderately Suitable	Least Suitable
LF-2N/PI-1A1	LF-4N	LF-2N/PI-1N
LF-10W	LF-4N/PI-1N	LF-2N/PI-13N
LF-10W/PI-2W	LF-11W	LF-4N/PI-13N
LF-1C/PI-18E	LF-11W/PI-2W	
LF-1E/PI-27E	LF-1E	
LF-3E	LF-3C	
	LF-8C	
	LF-9C	

Six siting options were rated as "most suitable" for OWMC facilities from a land use perspective. These consist of 2 integrated sites and 4 site combinations. Eight (8) siting options were rated moderately suitable and 8 options rated least suitable.

The siting constraints and opportunities of the 17 potential siting options are discussed as follows. The discussion of each siting option outlines the most significant features of each site which lead to the rating of siting options.

MOST SUITABLE SITES

Generally, the least constrained sites are characterized by physical/chemical treatment plants - incinerator sites on industrially-designated land with few residences on site and few to moderate number of residences in the site vicinity. Minimal commercial or industrial relocation is required.

Landfill and integrated sites are on rural/agriculturally designated land, with few residences on site or in the site vicinity. Integrated sites in this category are close to existing industry or other compatible uses and have few residential uses on access roads.

LF-2N/PI-1A1

The most significant positive feature of this siting option is that both sites are industrially designated (LF-2N is proposed) and that other industrial uses are proposed around each. Because of their location among major urban communities in the Golden Horseshoe, there are, however, more existing and future residential and commercial land uses around both of these sites. PI-1A1 is located next to existing estate residential uses and to proposed urban residential uses to the northwest. The Fletchers Creek Residential Community is presently developing north of LF-2N.

The characteristics of these sites highlight a significant tradeoff faced during the site selection process. While the selection of sites which are industrially designated (rather than rural/agriculturally designated) is preferred, these sites are generally associated with multiple use urban areas which may result in greater impacts to the surrounding residential, commercial and light industrial uses.

LF-10W

Of all the rural/agriculturally designated sites examined, this site was evaluated to be the most suitable (together with LF-3E) due to the close proximity of the site to a major non-rural use, the Middleport Hydro Transformer Station, and the relatively few residences on the site and in the site vicinity. In addition, the site has few constraints with regard to the two siting options available on this site - the north option (LF-10a-West) and the south option (LF-10b-West). There does not appear to be any appreciable difference between the two siting options at this stage in the analysis.

LF-10W/PI-2W

In addition to the positive attributes of LF-10W discussed above, this partially integrated option offers the opportunity of locating the physical/chemical treatment plant and the incinerator on the industrially designated land of PI-2W. In addition, a portion of the site is owned by the Region of Hamilton-Wentworth. There are relatively few residences on or around the site, although there are a number of existing commercial uses nearby.

In comparing this partially integrated siting option with LF-10W as an integrated site, it was concluded that LF-10W/PI-2W may be preferred to LF-10W due to the opportunity to place the treatment facilities on industrially designated lands. This conclusion would have to be tested, however, during the more detailed analysis anticipated in Phase 4A.

LF-1C/PI-18E

This is a partially integrated option where both the landfill and physical/chemical treatment plant/incinerator sites are industrially designated. PI-18E has the added advantage of being designated Heavy Industrial, and being in close proximity to several heavy industrial uses, including a Stelco Plant. There are however two disadvantages to this site. First, there is a cluster of residential uses within the site vicinity, and second, the existing alternative access routes to the site traverse significant residential areas.

LF-1C, in addition to having a proposed industrial designation, is predominantly publicly owned by the St. Lawrence Seaway Authority. Although located in a rural area, these lands are adjacent to an existing railway marshalling yard. There are also very few residences on the site or in the site vicinity. The negative attributes of the site are twofold. First, there are a significant number of residences immediately beyond the site vicinity. Second, access routes to the site must traverse long distances through residential strip development and along existing regional roads to the site.

LF-1E/PI-27E

The most significant feature of this siting option is that PI-27E is industrially designated (proposed) and LF-1E is located in a rural area in close proximity to PI-27E.

In addition to these attributes, there are several heavy industrial uses in the site vicinity and in close proximity to PI-27E. These industrial uses include a trucking terminal, the Ford Glass Plant and, somewhat further away, the Cyanamid of Canada plant. All lands north of the site are also industrially

designated. One industrial use on the site, a $\pm 10\,000\text{ m}^2$ warehouse, may not have to be relocated from the site. There are also few residences in this site, in the site vicinity or along the short access road to the QEW.

LF-1E, while located in a rural/agricultural area, is in an area which has many quasi-industrial uses such as auto wreckers' yards. In addition, there are few residences along the access routes to the site. With regard to constraints, there are a moderate number of residences on the site and in the site vicinity. The site is also highly fragmented in terms of ownership.

As with LF-10W, there are two siting options available for this site. The northern site (LF-1a-East) is preferable to the southern site (LF-1b-East) from a land use perspective, due to the fewer residences on site and in the site vicinity for this option.

LF-3E

LF-3E is the second integrated site which is rated most suitable. This rating is due to the site's location immediately adjacent to a proposed industrial designation and its close proximity to heavy and medium industrial uses.

This proximity to industrial lands, and the fact that the site is integrated, provides for two additional positive attributes. First, as an integrated site, less land area is required to house the combined facilities, resulting in lesser impacts than those for a partially integrated siting option which requires two separate sites. Also, since this is the only integrated site with proximity to existing and future industrial uses, land use impacts will probably be less than for other integrated sites.

MODERATELY SUITABLE SITES

Sites in this category lack some of the siting opportunities of those in the most suitable category. Most significant of these are a lack of industrial designations or proximity to existing medium and heavy industrial uses. In addition, these sites typically exhibit more constraints, particularly more residences on the site and in the site vicinity.

LF-4N

Site LF-4N is a potentially integrated site located in a rural/agricultural area. This existing land use pattern is confirmed by the rural/agricultural designation of the site and site vicinity. Despite this, the site has several other positive attributes with respect to impact on surrounding uses. There are few residences on the site and in the site vicinity, and a small number of land parcels on the site. Several access route options are available, the best of which have direct access to Highway No. 401 and the QEW and have minimal impact on residential uses.

LF-4N/PI-1N

This siting option consists of two rural/agricultural sites located in very close proximity to each other. From that standpoint, this option offers distinct disadvantages to an integrated LF-4N site, as land use impacts will be greater with two sites employed, and no apparent advantages are offered by the location of the physical/chemical treatment plant and incinerator on industrially designated lands.

Two siting options are available on site PI-1N, and this site is much larger than other sites for this reason. The entire site cannot therefore be fairly compared to other sites in terms of number of residences affected, etc. Of the two siting options available, the western site would appear to involve fewer impacts in terms of residences on site and in the site vicinity. When combined with LF-4N, it also has the advantage of closer proximity to LF-4N.

LF-11W

This site is located in close proximity to site LF-10W, and as a result, it shares many of the attributes of LF-10W in terms of official plan designation, land use pattern, access routes, and land value. However, two significant factors led to a less desirable rating for LF-11W than LF-10W. First, there is a very large number of residences in the site vicinity of LF-11W (over 35). Second, site LF-11W consists of 10 land parcels with an average size of about 15 hectares, while the average parcel size of LF-10W is twice that of LF-11W, at 30 hectares.

LF-11W/PI-2W

This partially integrated siting option has the significant attribute of permitting the location of the physical/chemical plant and incinerator on lands which are both industrially designated and partially publicly owned. Site PI-2W also has very few residences on the site and in the site vicinity, although there are several commercial uses close to the site. The very close proximity to Highway No. 403 and the few residences on this route also contribute to the rating of the site.

LF-1E

As discussed above, site LF-1E is located in a rural/agricultural area which has been the subject of considerable intrusion by non-rural uses. This has had several effects. In a positive sense, the establishment of several auto wreckers' yards may be seen as a low siting constraint. However many residences have been established in the area, and the land is heavily fragmented as a result. The location of these residences in the area is a significant siting constraint.

In comparing the fully integrated option of LF-1E to the partially integrated option of LF-1E/PI-27E, it was concluded that the partially integrated option is preferable due to the opportunity to site the treatment facilities on industrially designated lands in proximity to heavy and medium industrial uses.

LF-3C, LF-8C, LF-9C

All three of these integrated sites are located in close proximity to each other in rural/agricultural areas which are designated for a continuation of such land uses. As such, these sites have very similar features and they are therefore discussed together in order to highlight both their common and dissimilar attributes. In addition to official plan designations and land use patterns, all these sites have few residences on site and in the site vicinity, low land values and long access routes to the QEW, all of which must traverse some established residential communities.

In comparing all of these sites, LF-3C has the fewest residences on site, although the largest number of residences in the site vicinity. LF-8C has the disadvantage of being closest to a hamlet community (Boyle), however a strip of residential and commercial uses along Highway No. 20 is also close to LF-9C. In summary, it was concluded that no significant differences are apparent between the sites at this scale of analysis. In comparing the sites to all other sites, it was concluded that they should be rated moderately suitable in consideration of the incompatibility of a facility siting within a significant agricultural area, which is offset by the relative isolation and few residences impacted. The fact that access routes to the site must traverse urban built-up communities is also a significant disadvantage in rating this site.

LEAST SUITABLE SITES

Those siting options rated least suitable consist of those partially integrated siting options which locate the treatment facilities on rural/agricultural lands separate from a landfill site. These siting options therefore combine two disadvantages. First, the treatment facilities are not located on industrially designated lands. Second, land use impacts are, other factors being equal, much greater in a partially integrated siting option as two sites must be acquired, and more lands are impacted.

LF-2N/PI-1N

This siting option combines a proposed industrial designation for LF-2N with PI-1N, which is designated rural/agricultural. LF-2N has few residences on site and along access routes (due to its close proximity to Highways No. 401 and 10), however, it is close to residential and commercial uses at Derry West. In addition, the site is about 1 kilometre from the Fletchers Creek Residential Community to the north and has very high land costs.

As discussed, the major constraint to PI-1N is its rural/agricultural land use pattern and official plan designation. The western siting option would impact upon few residences on site or in the site vicinity, and access routes to the site do not pose undue constraints with regard to residential uses affected.

In comparing this siting option to other siting options which include these two sites, the following was determined. LF-2N/PI-1A1 is preferred to LF-2N/PI-1N due to the industrial designation of PI-1A1. LF-4N/PI-1N is preferred to LF-2N/PI-1N for several reasons. First, LF-4N and PI-1N are in very close proximity to each other so that the land use impacts on surrounding lands and the community are less than a partially integrated siting option with sites in separate communities. Also, LF-2N is a desirable site when in combination with site PI-1A1 because this offers the opportunity to place all facilities on industrially designated lands. However, when LF-2N is combined with a physical chemical treatment plant/incinerator site in a rural area, such as PI-1N and PI-13N, LF-2N's proposed industrial designation does not become such a positive attribute, due to the fact that the landfill is less industrial in nature than the treatment facilities.

LF-2N/PI-13N

Site PI-13N exhibits several attributes which represent both low and high constraints to siting. The most significant attribute of the site is that most (87%) of the site is publicly owned by the Ontario Land Corporation. There are also very few residences (4) on the site. However, a significant siting constraint associated with this site is the large number of residences in the site vicinity and immediately beyond the site. This site is also rural/agriculturally designated.

In comparing this siting option with the two other siting options which employ these sites, the following was concluded (subject to the detailed analysis of Phase 4A). LF-2N/PI-1A1 is preferred to LF-2N/PI-13N due to the industrial designation of PI-1A1. LF-4N/PI-1N is preferred to LF-4N/PI-13N due to the close proximity of LF-4N to PI-1N. It is not possible to assess the relative advantages of LF-4N/PI-13N and LF-2N/PI-13N, and LF-2N/PI-13N and LF-2N/PI-1N, until further analysis is conducted during Phase 4A.

LF-4N/PI-13N

Both of the sites which make up this siting option, and the comparison of it to other options which include these sites, have been discussed above.

Table 4.4 summarizes the siting options in terms of the types and levels of land use constraints associated with each option.

TABLE 4.4
Identification of Candidate Sites
Summary of Siting Options by Level of Constraint

<u>Siting Option</u>	<u>Site</u>	<u>Level of Constraint</u>		
		<u>Low</u>	<u>Moderate</u>	<u>High</u>
<u>Most Suitable Sites</u>				
LF-2N/ PI-1A1	PI	o industrial designa- tion of site		o proximity to existing estate residential subdivision
		o industrial designa- tion of site vicinity		o residential designation in site vicinity
		o few residences on site		o high land cost
		o few residences in site vicinity		
		o no residences on preferred access route		
	LF	o proposed industrial designation	o some residences in site vicinity	o proximity to residential and commercial uses at Derry West
		o compatible land use pattern existing industrial uses 1 km to west		o 1 km south- east of Fletchers Creek South residential community
		o few residences on site		o high land cost

LF = Landfill
PI = Partially Integrated
INT = Integrated

Level of Constraint

<u>Siting Option</u>	<u>Site</u>	<u>Low</u>	<u>Moderate</u>	<u>High</u>
<u>Most Suitable Sites</u>				
		o little residential development on access routes		
LF-10W	INT	o few residences on site	o agricultural designation of site	
		o few residences in vicinity		
		o few residences on access roads		
		o not highly fragmented		
		o low land cost		
LF-10W/ P1-2W	PI	o industrial designation of site		o commercial uses in site vicinity and beyond
		o public ownership (in part)	o low-moderate land cost	
		o few residences on site	o existing industrial facilities may or may not be compatible	
		o few residences in site vicinity (situated in industrially designated area)		
		o few residences on access routes		
	LF	o few residences on site	o rural/agricultural designation of site	

		<u>Level of Constraint</u>		
<u>Siting Option</u>	<u>Site</u>	<u>Low</u>	<u>Moderate</u>	<u>High</u>
<u>Most Suitable Sites</u>				
		- o few residences in site vicinity - o few residences on access roads - o compatible land use pattern - adjacent to Middleport Hydro transformer station - o small number of land parcels - o low land cost		
LF-1C/ PI-18E	PI	o heavy industrial designation on part of site	o moderate number of residential uses in site vicinity and beyond, although within industrial designation	
		o heavy industrial uses in site vicinity	o moderate residential strip development on access routes	o highly fragmented site
	LF	o proposed industrial designation on part of site		o significant number of residences just beyond site vicinity
		o substantial public ownership of site, approximately 50%		o significant distance through residential strip development on access routes

<u>Level of Constraint</u>				
<u>Siting Option</u>	<u>Site</u>	<u>Low</u>	<u>Moderate</u>	<u>High</u>
<u>Most Suitable Sites</u>				
LF-1E/ PI-27E	PI	o few residences on site or in site vicinity		
		o existing industrial zoning	o moderately high land cost	
		o proposed industrial designation		
		o existing heavy industries to north		
		o few residences on site or in site vicinity		
	LF	o few residences on access routes		
		o land use pattern in site vicinity and beyond contains quasi-industrial uses such as auto wrecker's yards	o moderate number of residences on site	o highly fragmented site
			o moderate number of residences in vicinity	
		o access route has very few residences		
LF-3E	INT	o few residences in site vicinity		
		o in proximity to developing industrial area with medium and heavy industry		
		o abuts proposed industrial designation		
		o few residences on preferred access route		

Level of Constraint

<u>Siting Option</u>	<u>Site</u>	<u>Low</u>	<u>Moderate</u>	<u>High</u>
<u>Most Suitable Sites</u>				
		o low land cost compared to separate sites		
<u>Moderately Suitable Sites</u>				
LF-4N	INT	o few residences on site	o agricultural designation of site	
		o few residences in site vicinity		
		o small number of land parcels		
		o low land cost compared to separate sites		
LF-4N/ PI-1N	PI	o few residences in site vicinity (west site)	o agricultural designation of site	
		o few residences on on site (west site)		o highly fragmented
	LF	o few residences on site	o agricultural designation of site	
		o few residences in site vicinity		
		o small number of land parcels		
LF-11W	INT	o few residences on site	o agricultural designation of site	

<u>Level of Constraint</u>				
<u>Siting Option</u>	<u>Site</u>	<u>Low</u>	<u>Moderate</u>	<u>High</u>
<u>Moderately Suitable Sites</u>				
		- o compatible land use pattern-adjacent to Middleport Hydro transformer station - o little residential development on access routes		o large number of residences in site vicinity (over 35)
LF-11W/ PI-2W	LF	- o few residences on site - o compatible land use pattern-adjacent to Middleport Hydro transformer station - o little residential development on access routes	o agricultural designation of site	o large number of residences in site vicinity (over 35)
	PI	- o industrial designation of site - o public ownership (in part) - o few residences on site - o few residences in site vicinity (situated in industrially designated areas) - o few residences on access routes	- o low-moderate land cost - o existing industrial facilities may or may not be compatible	o commercial uses in site vicinity and beyond

Level of Constraint

<u>Siting Option</u>	<u>Site</u>	<u>Low</u>	<u>Moderate</u>	<u>High</u>
<u>Moderately Suitable Sites</u>				
LF-1E	INT	- o land use pattern in site vicinity and beyond contains auto wrecker's yards and auto repair garages - o few residences on preferred access route	- o agricultural designation of site - o moderate number of residences on site	o highly fragmented site
LF-3C	INT	- o few residences on site - o few residences in site vicinity - o low land cost (compared to separate site options)	o rural designation of site	- o large number of residences on local access route - o regional access routes pass through built-up urban communities
LF-8C	INT	- o few residences on site - o few residences in vicinity - o low land cost (compared to separate site options)	o rural designation of site	o regional access routes pass through built-up urban communities
LF-9C	INT	- o few residences on site - o few residences in vicinity - o very small number of parcels - o very low land cost	o rural designation of site	o regional access routes pass through built-up urban communities

Level of Constraint

<u>Siting Option</u>	<u>Site</u>	<u>Low</u>	<u>Moderate</u>	<u>High</u>
<u>Least Suitable Sites</u>				
LF-2N/ PI-1N	LF	o proposed industrial designation	o some residences in site vicinity	o proximity to residential and commercial uses at Derry West
		o compatible land use pattern existing industrial uses 1 km to west		o 1 km south-east of Fletchers Creek South residential community
		o few residences on site		o high land cost
		o few residences on access routes		
	PI	o few residences in site vicinity (west site)	o agricultural designation of site	
		o few residences on site (west site)		o highly fragmented
LF-2N/ PI-13N	PI	o few residences on site	o agricultural designation of site	o incompatible land use pattern-residential clusters to north, east and southwest
		o site not highly fragmented		
		o 90% of site publicly owned and available for acquisition		
	LF	o proposed industrial designation		o proximity to residential and commercial uses at Derry West

<u>Level of Constraint</u>				
<u>Siting Option</u>	<u>Site</u>	<u>Low</u>	<u>Moderate</u>	<u>High</u>
<u>Least Suitable Sites</u>				
LF-4N/ PI-13N		o 1 km west of existing industrial uses		o 1 km south-east of Fletcher's Creek South residential community
		o few residences on site		o high land cost
		o few residences on access routes		
	PI	o few residences on site	o agricultural designation of site	o incompatible land use pattern-residential clusters to north, east and southwest
		o site not highly fragmented		
		o 90% of site publicly owned and available for acquisition		
	LF	o few residences on site	o agricultural designation of site	
		o few residences in site vicinity		
		o small number of land parcels		
		o low land cost compared to separate sites		

SUMMARY OF RATING

The results of the foregoing analysis indicate that significant differences exist among the potential siting options from the viewpoint of land use, land use planning and land ownership.

Eight of the siting options are integrated sites, while nine partially integrated siting options were assessed. While all eight integrated siting options were located in rural/agricultural areas, two of these (LF-3E, LF-10W) were rated as most suitable largely because of their proximity to industrial areas or other compatible facilities, and the absence of any other significant siting constraints. The remaining six integrated sites (LF-4N, LF-11W, LF-3C, LF-8C, LF-9C, LF-1E) were rated moderately suitable despite their rural/agricultural designation due to the lack of any other major siting constraints. Of these integrated options, LF-11W and LF-1E have potentially greater siting constraints due to the number of residences both on site and in the site vicinity. Sites LF-3C, LF-8C and LF-9C are also constrained by the fact that access routes to these sites must traverse built-up areas.

Of the nine partially integrated siting options, five options would locate the physical/chemical treatment plant and incinerator on industrially designated lands (LF-2N/PI-1A1, LF-1C/PI-18E, LF-1E/PI-27E, LF-10W/PI-2W, LF-11W/PI-2W). Of these options, only LF-11W/PI-2W was rated moderately suitable due to the large number of residences around LF-11W. Of the other four options, LF-1C/PI-18E may represent the most suitable siting option due to the heavy industrial nature of PI-18E and the proposed industrial designation and public ownership of LF-1C. LF-2N/PI-1A1 also has an industrially designated landfill site (proposed), however both LF-2N and PI-1A1 are constrained by nearby urban residential areas.

Four partially integrated options did not provide for the physical/chemical treatment plant and incinerator to be located on industrially designated lands (LF-2N/PI-1N, LF-2N/PI-13N, LF-4N/PI-1N, LF-4N/PI-13N). Of these, only one was judged to be moderately suitable (LF-4N/PI-1N) due to the close proximity of the sites and the lack of major siting constraints associated with each location.

The remaining three siting options were judged to be least suitable for the primary reason that the dispersion of facilities to two sites and the lack of industrial designations on which to locate the treatment facilities may result in the options with the greatest land use impacts. In the case of LF-2N/PI-1N and LF-2N/PI-13N, the proposed industrial designation of LF-2N did not offer significant advantages since the site would be used only for a landfill facility, and the waste treatment facilities would be located some distance away on rural/agricultural lands. In these cases, the high land cost associated with LF-2N does become a more significant consideration.

The foregoing conclusions will, of course, be subject to a re-examination when a detailed comparison of candidate siting options is undertaken during Phase 4A. At that time, the more detailed data which is gathered will be analyzed to rank the candidate sites and siting options. In addition, major tradeoffs will be identified and decisions made with respect to these tradeoffs.

CONCLUSIONS AND RECOMMENDATIONS

The foregoing represent the scope of the land use consultant's responsibilities with respect to the land use, land use planning, and land ownership aspects of the human environment in OWMC's site selection process to the end of Phase 3B. The premises and postulates of the consultant, the methodology used to obtain and analyze the data, the main findings of the analysis and the recommended application of these conclusions are presented to OWMC to assist in its technical analysis.

It is recommended that the land use matters discussed in this report be considered by OWMC to expedite the process of identifying the most suitable candidate site(s) for OWMC waste treatment and disposal facilities.



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APPENDICES

APPENDIX A

IDENTIFICATION OF SITE AREAS FACTORS



IDENTIFICATION OF SITE AREA FACTORS

FACTOR #1

Factor Grouping:

Land Use, Planning and Land Ownership

Factor:

Industrial Lands designated in Official Plans, built upon

DEFINITION OF FACTOR:

Lands designated for industrial use in area municipality official plans and in conformity with regional official plans, which are built upon.

RATIONALE/SIGNIFICANCE:

Industrial uses are often characterized by noise, airborne emissions, rail and truck traffic, etc. The location of most built-up industrial areas is generally well-separated from residential areas. (There are exceptions.) Most have good road (and in many cases, rail) access.

Industrial areas usually exhibit low day-time population density and negligible night-time populations. This population tends to have a low proportion of persons in high risk categories, e.g., the disabled, the elderly, and the young (although some industries have a high percentage of women of child-bearing age).

The OWMC facilities, except for the landfill, are essentially industrial in character and will have a substantial degree of suitability to many of the future uses in these designated industrial areas.

Built-up industrial areas contain a wide variety of industrial and related buildings and uses. Intensity of use varies greatly, as does parcel size. Siting opportunities occur primarily in terms of replacement of obsolete or low intensity uses, and will most likely be feasible only if a single large property is available.

SOURCES OF INFORMATION:

Area Municipalities	-	Official Plans
	-	Existing Land Use Mapping
	-	Zoning By-laws
	-	Planning staff reports
Regional Municipalities	-	Official Plans
	-	Industrial Land Inventories

Aerial Photography - 1982 and 1983 (Scale 1:30 000)

Realtor sources

INTERPRETATION/METHODOLOGY:

Built-up industrial areas were identified from existing land use mapping prepared by area municipality planning staff, planning staff reports and air photo interpretation.

Boundaries utilized for defining the limits of these areas are property boundaries, zoning boundaries, registered plans and limits of uses as interpreted from air photos.

In Niagara and Hamilton-Wentworth Regions, reference was also made to industrial area mapping prepared by Regional planning staff.

The incidence of the factor was plotted on 1:50 000 scale base mapping of the candidate areas and vicinity.

CRITERIA/INDICATORS:

The methodology employed in mapping this information involved the use of secondary sources (i.e., land use surveys completed by municipal planning departments) and primary sources (i.e., aerial photography interpretation). As a result, different indicators may have been used in the compilation of secondary source material from those used in the interpretation of primary sources. However, when primary sources were consulted, the following indicators were used:

- Industrial buildings
- Industrial uses, e.g., storage, waste dumping, landscaping, parking, etc.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Industrial areas are rarely homogeneous in use. A single industrial building may contain a number of different uses, including banks, restaurants, wholesale-retail outlets, etc. At the site selection stage, industrial areas within the area of influence of the candidate site will be examined at a greater level of detail to identify non-industrial uses which may be affected. Specific property boundaries can not always be precisely determined.

Certain official plans and amendments are not yet approved, i.e., Region of Peel, Town of Milton, and the City of Niagara Falls.

IDENTIFICATION OF SITE AREA FACTORS

FACTOR #2

Factor Grouping:

Land Use, Planning and Land Ownership

Factor:

Industrial Lands designated in Official Plans, internal roads and services, vacant.

DEFINITION OF FACTOR:

Lands designated for industrial use in area municipality official plans and in conformity with regional official plans with internal roads and services constructed but unoccupied or vacant.

RATIONALE/SIGNIFICANCE:

The areas designated for industrial use within the candidate areas are, generally speaking, subject to Official Plan designations that permit a wide range of industrial uses. It can therefore be anticipated that future industries include those characterized by noise, some airborne emissions, rail and truck traffic, etc.

The location of industrial areas is generally well-removed from residential areas. (There are some exceptions). Most have good road (and in many cases, rail) access.

Industrial areas usually exhibit low day-time population density and negligible night-time populations. This population tends to have a low proportion of persons in high risk categories, e.g., the disabled, the elderly, and the young (although some industries have a high percentage of women of child-bearing age).

The particular significance of internally-serviced industrial land is three-fold; compared with similar land which is unserviced, these areas are ready for immediate development (which may, in fact, occur before the end of the OWMC study), have a substantial infrastructure investment in the ground, and have a quite different pattern of land division and ownership from unsubdivided land. Acquisition of large parcels of land is expected to be more time-consuming and expensive than would be the case with unserviced land.

The OWMC facilities, except for the landfill, are essentially industrial in character and will appear outwardly to be industrial plants. For this reason, the OWMC uses will have a substantial degree of suitability to many of the future uses in these designated industrial areas.

SOURCES OF INFORMATION:

- | | | |
|-------------------------|---|-----------------------------|
| Area Municipalities | - | Official Plans |
| | - | Existing Land Use Mapping |
| | - | Zoning By-laws |
| | - | Planning staff reports |
| Regional Municipalities | - | Official Plans |
| | - | Industrial Land Inventories |

Aerial Photography - 1982 and 1983 (Scale 1:30 000)

INTERPRETATION/METHODOLOGY:

Industrially-designated lands within the candidate areas which have local streets but no buildings or industrial activities were plotted using area municipality Official Plans, aerial photographs, and information received from municipal planning staff.

Industrially-designated and internally serviced lands include vacant lands within established industrial areas as well as new industrial subdivisions. Boundaries utilized for defining the limits of these areas are property boundaries, zoning boundaries, subdivision applications, registered plans and limits of uses as interpreted from airphotos.

The incidence of the factor was plotted on 1:50 000 scale base mapping of the candidate areas and vicinity.

CRITERIA/INDICATORS:

The methodology employed in mapping this information involved the use of secondary sources (i.e., land use surveys completed by municipal planning departments) and primary sources (i.e., aerial photography interpretation). As a result, different indicators may have been used in the compilation of secondary source material from those used in the interpretation of primary sources. However, when primary sources were consulted, sites were considered serviced if either of the following indicators were present:

- . Internal road pattern graded and/or paved
- . Internal water and sewer mains installed.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Property boundaries need further investigation to confirm accuracy.

The Regional Niagara Policy Plan identifies a number of deferred development areas. This designation applies to areas indicated for long-term development. A number of industrial areas are affected. Deferred areas have not been shown separately from other industrially-designated lands.

Certain official plans and amendments are not yet approved, i.e., Region of Peel, Town of Milton, and the City of Niagara Falls.

**IDENTIFICATION OF
SITE AREA FACTORS**

FACTOR #3

Factor Grouping:

Land Use, Planning and Land Ownership

Factor:

Industrial Lands designated in Official Plans,
vacant

DEFINITION OF FACTOR:

Lands designated for industrial use in area municipality official plans and in conformity with regional official plans, vacant and unserviced.

RATIONALE/SIGNIFICANCE:

The areas designated for industrial use within the candidate areas are, generally speaking, subject to Official Plan designations that permit a wide range of industrial uses. It can therefore be anticipated that future industries will include those characterized by noise, airborne emissions, rail and truck traffic, etc.

The location of industrial areas is generally well removed from residential areas. (There are some exceptions). Most have good road (and in many cases, rail) access.

Industrial areas usually exhibit low day-time population density and negligible night-time populations. This population tends to have a low proportion of persons in high risk categories, e.g., the disabled, the elderly and the young (although some industries have a high percentage of women of child-bearing age).

The OWMC facilities, except for the landfill, are essentially industrial in character and will appear outwardly to be industrial plants. For this reason, the OWMC uses will have a substantial degree of compatibility with many of the future uses in these designated industrial areas.

The time frame for development of these lands can generally be expected to be much longer term than for internally serviced industrial land. It is likely that a large part of these lands will remain unbuilt for the next decade, possibly two decades. Acquisition of large parcels is expected to be more expensive than for agricultural land but much less than for internally serviced industrial land.

SOURCES OF INFORMATION:

- Regional Municipality Official Plans
- Area Municipality Official Plans
- Factor Maps showing built-upon and internally serviced industrial lands

INTERPRETATION/METHODOLOGY:

Lands in this category include all lands designated industrial, or related industrial categories, in area municipality Official Plans minus all internally serviced and built-upon lands.

The incidence of the factor was plotted on 1:50 000 scale base mapping of the candidate areas and vicinity.

CRITERIA/INDICATORS:

Absence of street patterns and buildings, not internally serviced.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

It is possible, if not likely, that the total amount of industrially-designated land exceeds the amount which can be absorbed for industrial use over the next 1-2 decades. It may be necessary at a later stage in the study to determine whether industrial designations are excessive in any given area.

Certain Official Plans and amendments are not yet approved, i.e., Region of Peel, Town of Milton, and the City of Niagara Falls.

**IDENTIFICATION OF
SITE AREA FACTORS**

FACTOR #4

Factor Groupings:

Land Use, Planning and Land Ownership

Factor:

Residential Lands designated in Official Plans, built upon.

DEFINITION OF FACTOR:

Lands designated for residential use in area municipality official plans and in conformity with regional official plans, which are built upon.

RATIONALE/SIGNIFICANCE:

Residential designations do not normally allow any type of industrial use, particularly in suburban areas. Industrial uses are generally considered incompatible for a wide range of reasons, including truck traffic, noise and vibrations, dust, odours, etc. Industrial users are reluctant to locate in residential areas because of the high probability of resident complaints based on nuisance and health concerns.

With specific reference to OWMC facilities, residential areas have high day- and night-time populations and high percentage concentrations of at-risk populations, e.g., the young and the elderly. Residential areas may be difficult to evacuate in the event of accidents. Where the residential area depends on wells or a local watercourse for its water supply, there may be concern over the maintenance of water quality.

In terms of site acquisition, built-upon residential areas have highly fragmented ownership, and land assembly will be time-consuming and very expensive.

SOURCES OF INFORMATION:

- | | | |
|-------------------------|---|---------------------------------------|
| Regional Municipalities | - | Development Control Plans and Reports |
| | - | Official Plans |
| Area Municipalities | - | Zoning Maps |
| | - | Property Mapping |
| | - | Existing Land Use Mapping |
| | - | Planning staff reports and comments |

Aerial Photography - 1982 and 1983 (Scale 1:30 000)

INTERPRETATION/METHODOLOGY:

Built-upon residential areas were identified from 1982 and 1983 air photos, supplemented by area and regional development control reports plans and existing land use surveys.

Boundaries were based on property boundaries, subdivision and registered plan boundaries and zoning maps.

Residential development not within a residential official plan designation or an urban or hamlet envelope was recorded separately. (See Residential Development in Rural and Agricultural Areas, Factor #7.)

The incidence of the factor was plotted on 1:50 000 scale base mapping of the candidate areas and vicinity.

CRITERIA/INDICATORS:

The methodology employed in mapping this information involved the use of secondary sources (i.e., land use surveys completed by municipal planning departments) and primary sources (i.e., aerial photography interpretation). As a result, different indicators may have been used in the compilation of secondary source material from those used in the interpretation of primary sources.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Site visits will have to be made to map individual house locations.

Certain official plans and amendments are not yet approved, i.e., Region of Peel, Town of Milton, and the City of Niagara Falls.

IDENTIFICATION OF SITE AREA FACTORS

FACTOR #5

Factor Grouping:

Land Use, Planning and Land Ownership

Factor:

Residential Lands designated in Official Plans,
internal roads and services, vacant.

DEFINITION OF FACTOR:

Lands designated for residential use in area municipality official plans and in conformity with regional official plans with internal roads and services constructed but unoccupied or vacant.

RATIONALE/SIGNIFICANCE:

Residential designations do not normally allow any type of industrial use, particularly in suburban areas. Industrial uses are generally considered incompatible for a wide range of reasons, including truck traffic, noise and vibrations, dust, odours, etc. Industrial users are reluctant to locate in residential areas because of the high probability of resident complaints based on nuisance and health concerns.

With specific reference to OWMC facilities, residential areas have high day- and night-time populations and high percentage concentrations of at-risk populations, e.g., the young and elderly. Residential areas may be difficult to evacuate in the event of accident. Where the residential area depends on wells or a local watercourse for its water supply there may be concern over the maintenance of water quality.

In terms of site acquisition, internally serviced residential areas are typically covered by registered plans and lots have been sold to builders. Land assembly will be very time consuming and/or expensive.

SOURCES OF INFORMATION:

- | | | |
|-------------------------|---|---------------------------------------|
| Regional Municipalities | - | Development Control Plans and Reports |
| | - | Official Plans |
| Area Municipalities | - | Zoning Maps |
| | - | Existing Land Use Mapping |
| | - | Property Mapping |
| | - | Planning Staff Reports and comments |
| | - | Plans of Subdivision |

Aerial Photography - 1982 and 1983 (Scale 1:30 000)

INTERPRETATION/METHODOLOGY:

Residentially-designated lands which have internal roads and services were identified from planning staff plans, reports and comments, augmented by air photo analysis, and from area municipality official plans.

Boundaries were established on the basis of property lines, subdivision and registered plan boundaries and airphoto interpretation.

The incidence of the factor was plotted on 1:50 000 scale base mapping of the candidate areas and vicinity.

CRITERIA/INDICATORS:

The methodology employed in mapping this information involved the use of secondary sources (i.e., land use surveys completed by municipal planning departments) and primary sources (i.e., aerial photography interpretation). As a result, different indicators may have been used in the compilation of secondary source material from those used in the interpretation of primary sources. However, when primary sources were consulted, sites were considered internally serviced if either of the following indicators were present:

- . Internal road pattern graded and/or paved
- . Internal water and sewer mains installed.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Certain official plans and amendments are not yet approved, i.e., Region of Peel, Town of Milton, and the City of Niagara Falls.

IDENTIFICATION OF SITE AREA FACTORS

FACTOR #6

Factor Groupings:

Land Use, Planning and Land Ownership

Factor:

Residential Lands designated in Official Plans, vacant.

DEFINITION OF FACTOR:

Lands designated for residential use in area municipality Official Plans and in conformity with regional Official Plans, vacant and unserved.

RATIONALE/SIGNIFICANCE:

Residential designations do not normally allow any type of industrial use, particularly in suburban areas. Industrial uses are generally considered incompatible for a wide range of reasons, including truck traffic, noise and vibrations, dust, odours, etc. Industrial users are reluctant to locate in residential areas because of the high probability of resident complaints based on nuisance and health concerns.

With specific reference to OWMC facilities, residential areas have high day- and night-time populations and high percentage concentrations of at-risk populations, e.g., the young and the elderly. Residential areas may be difficult to evacuate in the event of sudden spills or airborne emissions. Where the residential area depends on wells or a local watercourse for its water supply, there may be concern over the maintenance of water quality.

In terms of site acquisition, future residential areas are typically subject to speculation and fragmentation of ownership, making land assembly time-consuming and/or expensive.

SOURCES OF INFORMATION:

- Regional Municipality Official Plans
- Area Municipality Official Plans
- Factor Maps showing built-upon and internally serviced residential lands

INTERPRETATION/METHODOLOGY:

Residential designations were plotted from the Future Land Use schedules of the area municipality Official Plans and cross-checked with the regional Official Plans to ensure conformity. (Regional Government legislation requires Area Municipality plans to be brought into conformity with the respective regional Official Plans once these have received approval from the Minister of Municipal Affairs and Housing.)

Those residentially-designated lands which have been internally serviced and/or built upon, were deleted.

The incidence of the factor was plotted on 1:50 000 scale base mapping of the candidate areas and vicinity.

CRITERIA/INDICATORS:

Residentially-designated lands which are vacant were identified from Area Municipal Official Plans. Lands which are internally serviced and/or built upon were deleted from this category.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

The extent of residential designations may not be realistic in all instances, having been drawn at a time when growth projections were more optimistic than is now the case. It may be necessary at a later stage in the study to determine whether residential designations are excessive in any given area.

Certain Official Plans and amendments are not yet approved, i.e., Region of Peel, Town of Milton, and the City of Niagara Falls.

In many Official Plans, residential designations are lumped in with other uses under headings such as "Settlement Area". In practice, this does not pose a significant problem for interpretation, as it has been assumed that the designations are essentially synonymous for the purposes of this analysis.

IDENTIFICATION OF SITE AREA FACTORS

FACTOR #7

Factor Groupings:

Land Use, Planning and Land Ownership

Factor:

Residential Development in Rural and
Agricultural Areas.

DEFINITION OF FACTOR:

Existing residential development outside existing urban development and hamlets.

RATIONALE/SIGNIFICANCE:

Rural residential uses typically take the form of strip development along highways or local roads and are often inter-mixed with agricultural, retail and small industrial uses. Lot sizes and setbacks are larger than for urban residential uses, and water is usually obtained from wells.

Rural residential uses are numerically less significant than urban residential uses because of lower densities. Rural residential strip development is exposed to higher background levels of traffic and noise. However, most of the concerns relevant to urban residential areas will apply, and there may be a particular concern for maintaining the potability of well water supply.

These areas are subject to fragmentation of ownership.

SOURCES OF INFORMATION:

- | | | |
|---------------------|---|--|
| Area Municipalities | - | Existing Land Use Mapping |
| | - | Planning staff comments |
| Base Mapping - 1978 | - | Scale 1:50 000, National Topographic Series, Energy Mines and Resources, Canada. |

INTERPRETATION/METHODOLOGY:

Rural residential uses were plotted on 1:50 000 base mapping within the candidate areas and for a distance of 400 m beyond. This plotting was checked against existing land use surveys where available. Area municipality planning staff plans and comments were also utilized.

Individual houses were not mapped. Only clusters of fifteen or more houses within a radius of 500 m outside of existing urban designations and hamlets were mapped.

CRITERIA/INDICATORS:

A minimum of fifteen houses or farmhouses clustered together within a 500 metre radius was set as the minimum criterion for mapping.

When it was not clear that fifteen houses were contained within this radius as a result of the small scale of both the land use maps and aerial photographs, the cluster was not mapped.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Detailed existing land use surveys were not available for many municipalities. The consultants found some difficulty in differentiating between residential and non-residential structures at this scale of mapping. Mapping for relevant areas should be undertaken by site inspection using 1:10 000 base mapping and aerial photography.

**IDENTIFICATION OF
SITE AREA FACTORS**

FACTOR #8

Factor Groupings:

Land Use, Planning and Land Ownership

Factor:

Commercial Lands designated in Official Plans, built upon.

DEFINITION OF FACTOR:

Lands designated for commercial use in area municipality official plans and in conformity with regional official plans, which are built upon.

RATIONALE/SIGNIFICANCE:

Commercial activities attract large day-time and evening populations of workers and customers over an 8 or 12 hour span, 5 or 6 days a week. Both the work force and customer populations may include a high proportion of women of child-bearing age. The population will be mobile and relatively easy to evacuate in the event of an incident.

Capital investment in commercial areas is generally intensive. The potential closure of small businesses is a concern.

SOURCES OF INFORMATION:

- Area Municipalities - Existing Land Use Mapping
- Zoning By-laws
- Staff reports and comments
- Property Mapping

Aerial Photography - 1982 and 1983 (Scale 1:30 000)

INTERPRETATION/METHODOLOGY:

Commercial areas were initially identified from official plans, air photos and zoning by-laws and confirmed with existing land use mapping, where available.

Boundaries were based on zoning boundaries and property plans, where available.

The incidence of the factor was plotted on 1:50 000 scale base mapping of the candidate areas and vicinity.

CRITERIA/INDICATORS:

The methodology employed in mapping this information involved the use of secondary sources (i.e., land use surveys completed by municipal planning departments) and primary sources (i.e., aerial photography interpretation). As a result, different indicators may have been used in the compilation of secondary source material from those used in the interpretation of primary sources. However, when primary sources were consulted, the following indicators were used:

- . Commercial buildings or use, e.g., storage
- . parking and landscaping

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Because only commercial uses within lands designated Commercial were included, some commercial uses in rural areas were not plotted. These will be identified through field surveys in subsequent steps in the site selection process. Site-specific commercial designations on isolated, commercial uses in rural areas were plotted but are not recommended as an exclusionary factor during constraint mapping due to the small size of the uses.

Certain official plans and amendments are not yet approved, i.e., Region of Peel, Town of Milton, and the City of Niagara Falls.

**IDENTIFICATION OF
SITE AREA FACTORS**

FACTOR #9

Factor Groupings:

Land Use, Planning and Land Ownership

Factor:

Commercial Lands designated in Official Plans, vacant.

DEFINITION OF FACTOR:

Lands designated for commercial use in area municipality official plans, in conformity with regional official plans, no internal servicing, vacant.

RATIONALE/SIGNIFICANCE:

Commercial activities attract large day-time and evening populations of workers and customers over an 8 or 12 hour span, 5 or 6 days a week. Both the work force and customer populations will include a high proportion of women of child-bearing age. The population will be mobile and relatively easy to evacuate in the event of an incident.

Capital investment in commercial areas is generally intensive. The potential closure of small businesses is a concern.

SOURCES OF INFORMATION:

Area Municipality - Official Plans

INTERPRETATION/METHODOLOGY:

Boundaries were derived from the relevant area municipality official plans. Commercial designations include the categories of Resort Commercial and Highway Commercial, as well as other related commercial uses.

The incidence of the factor was plotted on 1:50 000 scale base mapping of the candidate areas and vicinity.

CRITERIA/INDICATORS:

Absence of street patterns and buildings, no internal servicing.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

It is possible that the total amount of commercially-designated land in any given area exceeds the amount which can be absorbed for commercial use over the next 1 to 2 decades. The question as to whether Commercial designations are excessive will be addressed at subsequent stages of the process. Site-specific commercial designations on isolated, commercial uses in rural areas (whether existing or vacant) were plotted, but are not recommended as an exclusionary factor during constraint mapping due to the small size of the uses.

Certain official plans and amendments are not yet approved, i.e., Region of Peel, Town of Milton, and the City of Niagara Falls.

**IDENTIFICATION OF
SITE AREA FACTORS**

FACTOR #10

Factor Grouping:

Land Use, Planning and Land Ownership

Factor:

Provincial Planning Areas

DEFINITION OF FACTOR:

Lands designated within the Parkway Belt Planning Area and the Niagara Escarpment Planning Area.

RATIONALE/SIGNIFICANCE:

These two provincial planning documents are of significance in the vicinity of Candidate Areas 1 through 5 and 14. The Parkway Belt plan restricts uses to those "compatible" with the Parkway Belt, i.e., agricultural and recreational uses; transportation, utility and pipeline corridors and other acceptable uses. The Niagara Escarpment Commission (N.E.C.) Plan's controls are aimed at preserving the natural character of the Escarpment and its adjacent scenic areas, and its provisions would prohibit OWMC-type facilities.

Both the Parkway Belt and N.E.C. Plan are recognized as land use categories in the Halton Region Official Plan and in area municipality official plans.

SOURCES OF INFORMATION:

- Parkway Belt West Plan, July 1978, as amended.
- The Final Proposed Plan for the Niagara Escarpment, June 1983, Niagara Escarpment Commission.

INTERPRETATION/METHODOLOGY:

The incidence of the factor was plotted on 1:50 000 scale base mapping of the candidate areas and vicinity.

CRITERIA/INDICATORS:

Incidence of the designations in the above-noted planning documents.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

The Parkway Belt West Plan is under review and may be modified in the next year.

The N.E.C. Plan is expected to be approved in 1984 .

**IDENTIFICATION OF
SITE AREA FACTORS**

FACTOR #11
Factor Grouping:
Land Use, Planning and Land Ownership
Factor:
Rural Designations in Official Plans

DEFINITION OF FACTOR:

Rural designations in area municipality official plans which distinguish between Agricultural and Rural designations.

RATIONALE/SIGNIFICANCE:

The majority of area municipality official plans utilize the terms "Rural" and "Agricultural" interchangeably to refer to all those lands not designated for some other use. However, a few plans contain both an Agricultural and a Rural category, utilizing the Agricultural category to define prime agricultural land the Rural classification for the balance of the lands.

The Niagara Region Official Plan provides for a "Rural" designation for lands predominantly in Classes 4-7 in capability. This designation has been incorporated into several area municipality official plans. Although not so designated, lands of similar agricultural capability in other municipalities could be given a similar factor ranking.

SOURCES OF INFORMATION:

Regional Municipality - Official Plans
Area Municipality - Official Plans

INTERPRETATION/METHODOLOGY:

Boundaries were derived from the relevant area municipality official plans.

The incidence of the factor was plotted on 1:50 000 scale base mapping of the candidate areas and vicinity.

CRITERIA/INDICATORS:

N/A

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Other area municipalities in Niagara Region have not yet incorporated the "Rural" designation into their official plans, however, similar land use situations may occur in other municipalities.

Certain official plans and amendments are not yet approved, i.e., Region of Peel, Town of Milton, and the City of Niagara Falls.

**IDENTIFICATION OF
SITE AREA FACTORS**

FACTOR #12

Factor Grouping:

Land Use, Planning and Land Ownership

Factor:

Residual lands within urban envelopes, regional official plans

DEFINITION OF FACTOR:

Lands within an urban development envelope defined in regional official plans, but not designated for urban uses in local official plans.

RATIONALE/SIGNIFICANCE:

The designation of lands within the urban or hamlet envelopes implies a commitment to a change in land use within the time frame of the plan, usually from agricultural to urban use. These designations have not been fully incorporated into all the local official plans, however, and there remain areas committed to future urban use which do not have a specific urban use designation.

SOURCES OF INFORMATION:

Local and Regional Municipalities - Official Plans

INTERPRETATION/METHODOLOGY:

Areas within the urban and hamlet envelopes in regional official plans but not designated in local official plans for urban uses, open space, hazard land or environmentally sensitive areas, were plotted.

CRITERIA/INDICATORS:

N/A.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

The ultimate specific land uses are not known; some of these lands are in close proximity to urban residential lands.

**IDENTIFICATION OF
SITE AREA FACTORS**

FACTOR #13
Factor Grouping:
 Land Use, Planning and Land Ownership
Factor:
 Publicly Owned Lands

DEFINITION OF FACTOR:

Publicly owned lands include those lands owned by federal, provincial or municipal agencies.

RATIONALE/SIGNIFICANCE:

Publicly owned lands are intended for uses which benefit the population at large. Use of these lands would minimize impacts upon private landowners. More specifically, the location of an OWMC facility on publicly owned lands would involve less acquisition of lands in private ownership.

Publicly owned lands may also represent a siting opportunity depending upon the nature of the lands and the existing land use.

SOURCES OF INFORMATION:

Area Municipalities	-	Official Plans
	-	Existing Land Use Mapping
	-	Zoning By-laws
	-	Planning staff reports
Regional Municipalities	-	Official Plans
Aerial Photography	-	1982 and 1983 (Scale 1:30000)

INTERPRETATION/METHODOLOGY:

Public ownership may facilitate acquisition and therefore represent a siting opportunity.

The incidence of this factor was on plotted 1:50000 scale base mapping of the candidate areas and vicinity.

CRITERIA/INDICATORS:

Incidence of publicly owned lands in the above-noted documents.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

At the site selection stage ownership and tenancy of a parcel will be determined as recorded in registry and assessment offices.

APPENDIX B

IDENTIFICATION OF SITE AREAS FACTOR RANKING

FACTOR #1

FACTOR:

Industrial Lands designated in Official Plans, built upon.

RISKS: L - M

The degree of risk will be a function primarily of the density and composition of the day-time population in the surrounding industrial area. The risk is anticipated to be low unless the workforce includes a high proportion of female workers of child-bearing age.

In case of an incident requiring evacuation, the population will be highly mobile and able to evacuate without major difficulties.

The night-time population is expected to be minimal.

IMPACTS: L - M

Industrial areas are frequently characterized by nuisance emissions, odours, noise, vibrations, heavy truck traffic, rail traffic, open storage, etc.

The similarity in appearance and function of the physical/chemical treatment plant and incinerator to other heavy industrial uses will reduce their impact.

Impact may be higher if the industrial area is a light industrial or mixed industrial-warehouse/commercial-office area.

CONFIDENCE: H

These lands are already in industrial use. However, some uses may be obsolete or redundant, and may represent a redevelopment opportunity.

Data confidence - H
Category homogeneity - M-H
Stability vs. change - H

FACTOR #2

FACTOR:

Industrial Lands designated in Official Plans;
internal roads and services, vacant.

RISKS: L - M

The degree of risk will be a function primarily of the density and composition of the day-time population in the surrounding industrial area. The risk is anticipated to be low unless the workforce includes a high proportion of female workers of childbearing age.

In the case of an incident requiring evacuation, the population will be highly mobile and able to evacuate without major difficulties.

The night-time population is expected to be minimal.

IMPACTS: L

Industrial areas are frequently characterized by nuisance emissions, odours, noise, vibrations, heavy truck traffic, rail traffic, open storage, etc.

The similarity in appearance and function of the physical chemical treatment plant and incinerator to other heavy industrial uses will reduce their impact.

Impact may be higher if the industrial area is planned as a light industrial or mixed industrial-warehouse/commercial-office area. Impact is further reduced as no buildings are yet in existence.

CONFIDENCE: M - H

There is generally a high probability that these lands will be developed in industrial uses, at least partially, by the time the OWMC facilities are commissioned. The major exception to this may be vacant sites within older heavy industrial areas.

Further refinement of this category of use, will be undertaken later in the study, particularly with reference to potential and timing of development.

Data Confidence - M-H
Category homogeneity - M-H
Stability vs. change - M-H

FACTOR #3

FACTOR:

Industrial Lands designated in Official Plans, vacant.

RISKS: L

The degree of risk will be a function of the density and composition of the day-time population in the surrounding industrial area. The risk is anticipated to be low unless the workforce includes a high proportion of female workers of child-bearing age.

In case of an incident requiring evacuation, the population will be highly mobile and able to evacuate without major difficulties.

The night-time population is expected to be minimal.

IMPACTS: L

Industrial areas are frequently characterized by nuisance, emissions, odours, noises, vibrations, heavy truck traffic, rail traffic, open storage, etc.

The similarity in appearance and function of the physical chemical treatment plant and incinerator to other heavy industrial uses will reduce their impact.

Impact may be higher if the industrial area is planned as a light industrial or mixed industrial-warehouse/commercial-office area.

CONFIDENCE: M

There is generally a low to medium probability that these lands will be developed in industrial uses, at least partially, by the time the OWMC facilities are commissioned.

Data confidence	-	H
Category homogeneity	-	M-H
Stability vs. change	-	M

FACTOR #4**FACTOR:**

Residential Lands designated in Official Plans, built upon.

RISKS: H

Residential uses are highly sensitive to spills and other incidents. Mitigative measures are more difficult to implement in residential areas. Residential uses may contain concentrations of young and elderly persons who are more susceptible than the general population to airborne emissions. There is a potential for a high degree of trauma related to incidents affecting these population groups. If residents depend on well or river water for their water supply, there will be a concern regarding the impact of a spill or long-term effects from a landfill on groundwater.

IMPACTS: H

There will be a high potential for impacting the residential environment because of the large visual profile of the plant and storage tanks, the height and emissions of the incinerator, the spatial extent of all facilities, and the truck traffic which will be attendant on all three facilities.

CONFIDENCE: H

These lands are already in residential use.

Data confidence	-	H
Category homogeneity	-	M-H
Stability vs. change	-	H

FACTOR #5

FACTOR:

Residential Lands designated in Official Plans, internal roads and services but vacant.

RISKS: H

Residential areas are highly sensitive to spills and other incidents. Mitigative measures are more difficult to implement in residential areas. Residential uses may contain concentrations of young and elderly persons who are more susceptible than the general population to airborne emissions. There is a potential for a high degree of trauma related to incidents affecting these population groups. If residents depend on well or river water for their water supply, there will be a concern regarding the impact of a spill or long term effects from a landfill on groundwater.

IMPACTS: H

There will be a high potential for impacting the residential environment because of the large visual profile of the plant and storage tanks, the height and emissions of the incinerator, the spatial extent of all facilities, and the increased truck traffic which will be attendant on all three facilities.

There may be an expectation of a negative impact on residential property values.

CONFIDENCE: H

Lands within internally serviced residential subdivisions are very likely to develop by the time the OWMC facilities are commissioned.

Data confidence	-	M-H
Category homogeneity	-	M-H
Stability vs. change	-	H

FACTOR #6

FACTOR:

Residential Lands designated in Official Plans, vacant.

RISKS: M-H

Residential areas are highly sensitive to spills and other incidents. Mitigative measures are more difficult to implement in residential areas. Residential uses may contain concentrations of young and elderly persons more susceptible than the general population to airborne emissions. There is a potential for a high degree of trauma related to incidents affecting these population groups. If residents depend on well or river water for their water supply, there will be a concern regarding the impact of a spill or long-term effects from a landfill on groundwater.

IMPACTS: M-H

The potential for impacting residential environment is high because of the large visual profile of the plant and storage tanks, the height and emissions of the incinerator, the spatial extent of all facilities, and the increased truck traffic which will be attendant on all three facilities.

Substantial change to natural habitat or open space uses may have a high impact on visual and other amenities, thereby decreasing desirability for residential use.

There may be an expectation of a negative impact on residential property values.

CONFIDENCE: L-H

The land within the candidate areas which are so designated are likely to develop within the next 1 - 15 years.

Data confidence	-	H
Category homogeneity	-	M-H
Stability vs. change	-	L-M

FACTOR #7

FACTOR:
Residential Development in Rural and
Agricultural Areas.

RISKS: H

Rural residential areas present most of the risks inherent in other residential areas but for numerically smaller populations. Water supply quality may be a particular concern since most rural residences depend on well supply.

IMPACTS: M

Impacts will be of a similar nature to those for designated residential areas, but will be attenuated to some degree by the larger lot sizes typical of rural residential uses. Generally there are very few lots in any area.

CONFIDENCE: M

Existing development is already in place.

Data confidence	-	M
Category homogeneity	-	L
Stability vs. change	-	H

FACTOR #8

FACTOR:

Commercial Lands designated in Official Plans,
built upon.

RISKS: H

Uses may attract large populations concentrated up to 12 hours/day, 6 days/week, with a large proportion of this population in high-sensitivity categories.

IMPACTS: M-H

Odours, additional truck traffic, visual impact may have negative impact on commercial activities, particularly those related to the tourist industry.

CONFIDENCE: H

Existing development is already in place.

Data confidence	-	M-H
Category homogeneity	-	M
Stability vs. change	-	H

FACTOR #9

FACTOR:

Commercial Lands, designated in Official Plans, vacant.

RISKS: M-H

Potential development may attract large populations concentrated up to 12 hours/day, 6 days/week with a large proportion of this population in high-sensitivity categories.

IMPACTS: M

Odours, additional truck traffic and visual impact may have a negative impact on desirability of these lands for future commercial activities, particularly those related to the tourist industry.

CONFIDENCE: M-H

Commercial designations generally reflect an intent to commit capital funding for commercial development. It is possible, however, that the amount of commercially-designated land may exceed the amount which can be absorbed in the short- to mid-term, resulting in the lands lying vacant for several years.

Data confidence	-	H
Category homogeneity	-	M
Stability vs. change	-	M

FACTOR #10

**FACTOR:
Provincial Planning Areas**

RISKS: L

The provisions of both the Parkway Belt Plan and Niagara Escarpment Commission Plan have the effect of limiting residential, industrial and commercial development. Neither designation would encourage increased permanent population although the N.E.C. designation may have a long-term effect in increasing recreational use of areas adjacent to candidate areas.

IMPACTS: M-H

The Niagara Escarpment Commission "Rural" designation precludes industrial uses and all uses of a non-rural nature. Location of an OWMC facility would require N.E.C. approval and/or removal of the affected site from N.E.C. Planning Area.

The Parkway Belt West Plan designations preclude non-rural uses with the exception of highways, utilities and pipelines. Location of an OWMC facility would require Ministry of Municipal Affairs and Housing approval and/or removal of the site from the Parkway Belt.

CONFIDENCE: M-H

The N.E.C. Final Proposed Plan has received provincial approval. The Parkway Belt West is under review. Both policies are expected to be revised/approved by the end of 1984.

Data confidence	-	H
Category homogeneity	-	M-H
Stability vs. change	-	M

FACTOR #11

FACTOR:
Rural designations in Official Plans

RISKS: L

Low resident population because of low density of residential development. There is also unlikely to be an extensive population.

IMPACTS: L

Low densities of residential and agriculture-related development.

Marginal or poor farmland, therefore agricultural land and building investments are likely to be lower.

CONFIDENCE: L

Niagara Region Official Plan sets out guidelines for Rural designations to be implemented in Area Municipality Plans. Thorold and Niagara Falls Official Plans contain this category. Brantford and Onondaga Official Plans contain similar categories, i.e., Rural and Agriculture II, respectively.

Data confidence	-	H
Category homogeneity	-	L
Stability vs. change	-	H

FACTOR #12

FACTOR:
Publicly Owned Lands.

RISKS: L-M

The degree of risk is primarily a function of density and population composition e.g., the young and the elderly. Unlike privately owned lands, fewer residents are impacted upon in publicly owned lands, thereby minimizing the degree of risk.

IMPACTS: L-M

Publicly owned lands are intended for uses which benefit the population at large. These uses may include parks, recreational facilities, public work yards, etc. It is difficult to generalize the extent of the impact as it will vary depending upon the nature of land use and the percentage concentration of at-risk populations.

CONFIDENCE: M

The anticipated uses of public lands have generally been established and development may be in place.

Data confidence	-	M
Category homogeneity	-	L-H
Stability vs. change	-	L-M

APPENDIX C

**DR. CHANT'S LETTER OF JULY 8, 1983
TO MUNICIPALITIES**



**Ontario
Waste Management
Corporation**

2 Bloor Street West
11th Floor
Toronto, Canada
M4W 3E2
(416) 923-2918

July 8, 1983

Dear Mr.

As indicated in the Phase 3 Interim Report, the Ontario Waste Management Corporation (OWMC) has now identified Candidate Areas within which OWMC hopes to identify a suitable site or sites for an engineered landfill, a physical/chemical treatment plant and an incinerator. Portions of the Candidate Areas are within the boundaries of your municipality as indicated on the enclosed map.

OWMC is committed to ensuring that local concerns and priorities are fully considered in its site selection and facilities development process. A series of seminars are, for example, being held in the Candidate Areas. These seminars have provided for the direct participation of municipal councillors as well as representatives from a wide variety of groups and organizations. In addition, meetings are being held with municipal councils on a request basis.

In an effort to obtain the necessary information to assist us in identifying suitable sites and to discuss municipal concerns, we will also be meeting with municipal officials of all the municipalities within the Candidate Areas. We suggest a useful approach for coordinating our contacts with the officials of your municipality would be to hold a briefing meeting with the senior officials of the pertinent municipal departments such as planning and engineering.

At these meetings we will be requesting information on a variety of topics. A list of the types of information we will be requesting is attached. The meetings will serve a number of important functions including:

- acquainting municipal officials with the status of OWMC's work and specifically answering any questions which such officials might have concerning the site selection;
- identifying the information from the municipalities which the Corporation will need to carry out its site selection;
- identifying staff contact people within the municipality who can assist us in the assembly and interpretation of the requested information;
- ensuring that the work of OWMC is complementary and consistent with the waste management planning of your municipality.
- introduction of the consultants who are assisting the OWMC in site selection.

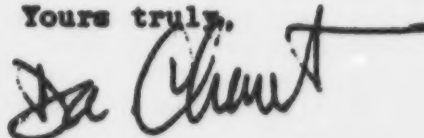
Once these briefing meetings have been held, we plan to meet directly with the contacts identified during the meetings to help us to assemble the necessary information to proceed with site identification.

We have already phoned representatives of your municipality about setting up the initial briefing meetings. We will also be obtaining some basic information such as Official Plans from each of the municipalities in the Candidate Areas during the interim period prior to the briefing meetings. However, no contacts will be made with municipalities concerning such matters as development proposals or policy interpretations until after the briefing meetings.

Should you require any further information concerning our municipal consultation process, please contact either Mr. David Lawrence, or Mr. David Young at our toll free number 1-800-268-1179.

We look forward to meeting with you.

Yours truly,



D.A. Chant
Chairman and President

Attachment

c.c. M. Scott
B. Jaffray
D. Young
B. Mitchell

APPENDIX D

MEETINGS WITH MUNICIPALITIES

MEETINGS WITH MUNICIPALITIES

INTRODUCTION

During July and the first two weeks in August, 1983, the land use consultants, Marshall Macklin Monaghan Limited (MMM) and Leon Kentridge Associates Limited, held a series of twenty-eight meetings with staff of the region, county and area municipalities within which the nineteen candidate areas were located. A subsequent meeting with the City of Brampton was held to discuss the candidate area identified at a later date in that municipality. The meetings were convened for the following purposes:

- . to acquaint municipal officials with the status of OWMC's work and answer any questions which these officials might have concerning the site selection process;
- . to receive the comments of municipal officials on the methodology employed in the candidate area selection process;
- . to identify the information from the municipalities which OWMC will need to carry out the site selection process;
- . to identify staff contact people within the municipality who could assist in the assembly and interpretation of the requested information;
- . to ensure that the work of OWMC is complementary and consistent with the waste management planning of the municipality; and
- . to introduce the consultants who are assisting OWMC in site selection.

Prior to meeting with the officials, each municipality received a letter from Dr. Chant, addressed to the chief administrative officer or clerk of the municipality, requesting a meeting with municipal staff members. (The full text of the letter is reproduced in Appendix C.) Attached to Dr. Chant's letter was a list of planning and other information requested by OWMC. This information included:

- Official Plans and amendments
- major planning studies and policy documents
- zoning by-laws
- population statistics and projections
- land use surveys
- plans showing the location of municipally owned land
- the nature and location of any comparable land uses
- the nature and location of community, institutional and recreational facilities
- location and status of development proposals
- road inventory and improvement program information

For most instances, meetings with the regional and county municipalities were held prior to meetings with the constituent area municipalities.

Regional staff posed many questions for OWMC and the land use consultants. Topics included site size requirements, the need for a sewage treatment plant in conjunction with the physical-chemical plant, potential joint Regional-OWMC use of sites, OWMC's schedule, air dispersion and surface drainage constraints, and the nature of the compensation package.

Concerns raised by staff were both general and site-specific. General concerns included a desire to harness the treatment-disposal process as an energy source, access route hazards, the validity of site evaluation techniques, protection of municipal water supplies and the municipal role in the site selection process. Site-specific concerns included the potential impacts of local airports and gas fields on potential sites.

Comments by regional staff indicated a good understanding of the site selection process. A number of specific sites, both within and outside the candidate areas, were suggested, particularly along the lakeshore.

Area municipality staff questions covered a wide array of issues. These included the size and nature of the OWMC facilities, the buffer area size, the means of disposal of liquid effluent and whether wastes from the U.S.A. will be treated.

Concerns raised included the value and beneficiaries of the compensation package, transport safeguards, treatment of U.S. waste, spill clean-up procedures, reliability of impact estimation, adequacy of the local road system, the effect on the tourist industry, and potential problems with environmentally sensitive areas, specialty agriculture, airport operations and fog.

Comments by area municipality staff included suggestions for specific locations and joint OWMC-Regional use of the incinerator, and some discussion of the reaction of local councils and citizen groups to the OWMC's program.

REGIONAL AND COUNTY MUNICIPALITIES

Schedule of meetings

Staff of OWMC contacted the recipients of Dr. Chant's letter and arranged meetings with staff of the five regions and the County of Brant, during the period July 11 to 19, 1983.

The Regional meeting schedule was as follows:

Niagara Region	-	July 11
Peel Region	-	July 12
Brant County	-	July 13
Haldimand-Norfolk Region	-	July 13
Hamilton-Wentworth Region	-	July 18
Halton Region	-	July 19

All meetings were attended by representatives of OWMC and MMM. Regional staff attending the meetings typically included the chief administrative officer, heads of engineering and planning departments, the director of waste management and, in some instances, the region's waste management consultant. A follow-up meeting was held with Peel Region planning staff on July 20, 1983.

Meeting format

Each meeting followed a similar format, commencing with an explanation by OWMC staff of the status of OWMC's program and an invitation to regional staff to ask questions. After the question period, the request for information set out in Dr. Chant's letter was reviewed and the availability of data was discussed with staff. Contact persons on the regional staff were identified and arrangements made to acquire the information and to follow up with further meetings as required. Meetings lasted 1½ hours on average.

Minutes of the meetings were taken and later circulated to the municipality by OWMC. Minutes for all regional, county and area municipality meetings are on file with the consultant.

Questions

Municipal staff posed a wide variety of questions, ranging from the size of site required for the OWMC facilities to the timing of a decision on transfer stations. Two questions occurred twice at the regional municipality/county meetings (and were repeated at several of the area municipality meetings). These can be paraphrased as follows:

"Will there be a need for a municipal sewage treatment facility in conjunction with the physical/chemical treatment plant?"

"Is joint Regional-OWMC use of any of the facilities possible, particularly the incinerator?"

Questions were also raised on the following topics:

- Quantity and composition of waste - how could more information be obtained?
- Status of the "grey" areas on the Interim Phase 3 Report maps - will these areas be reconsidered or are they now entirely eliminated from the process?
- OWMC's schedule for site selection - when would it be concluded?
- Surface drainage constraints
- Air dispersion constraints

- . Noise and intrusion factors - how is OWMC taking these factors into consideration?
- . Compensation package - what will be included and who will undertake the analysis?
- . Consultants' fees - how much?

OWMC and staff responded to these questions and undertook to supply reports or information at a later date on questions which could not be fully answered at the meeting.

Concerns

Concerns expressed at the meetings fell into two categories, i.e. those of a general nature applicable to the facilities and process and those of a more specific nature relating to the geography and circumstances of the particular region.

General concerns included the following:

- . Desire to have OWMC give high priority to energy production as a by-product from treatment (Halton)
- . Definition of controlled waste vs. special waste (Halton)
- . Access problems, particularly over bridges and through heavily populated areas (Haldimand-Norfolk)
- . Need for rail access safeguards (Haldimand-Norfolk)
- . Site evaluation techniques (Niagara)
- . Protection of municipal water supply quality, particularly for small communities dependent on the river supply (Brant)
- . OWMC consultants' previous work for municipalities (Halton)
- . Municipal role in the site selection process, eg. review of the drafts of OWMC reports (Haldimand-Norfolk)

More specific comments concerned the apparently very detailed boundaries of some of the candidate areas (Halton), the limited capacity of existing sewage treatment plants, particularly at Milton (Halton) and the impact of gas fields and airports in or near the candidate areas (Haldimand-Norfolk, Peel).

Comments

At most of the meetings with regional staff there was an indication of good understanding of the OWMC program, and, at two of the meetings, support for the process was expressed.

Other comments included suggestions that specific sites be examined, both inside and beyond the boundaries of the particular region. A lakeshore location, eg. the site of the Shell refinery in Oakville, was suggested at one meeting for the incinerator and physical-chemical treatment plant.

A particularly informative and well-attended meeting was held at the Region of Halton. Chief Administrative Officer Dennis Perlin chaired a meeting attended by five of the region's senior technical staff, the Assistant General Manager of the Halton Region Conservation Authority, members of the Halton Ecological and Environmental Advisory Committee, and the region's waste management consultant. The three-hour meeting (the longest in the series) resulted in a useful exchange of views and information.

Data received

A list of all materials received at, and subsequent to, the meetings is set out in Appendix E, Data Sources.

AREA MUNICIPALITIES

Schedule of meetings

Contact with chief administrative officers and clerks of the twenty-two area municipalities was made and meetings scheduled between July 14 to August 10.

All meetings were attended by planners from the consultant and, with two exceptions, by a representative from OWMC. The meeting schedule was as follows:

City of Brampton	-	July 14
Town of Oakville	-	July 18
Township of Glanbrook	-	July 19
Town of Ancaster	-	July 20
City of Mississauga	-	July 20
Township of Brantford	-	July 22
Township of West Lincoln	-	July 25
Town of Pelham	-	July 25
City of Niagara Falls	-	July 26
City of Thorold	-	July 26
City of Welland	-	July 27
Township of Wainfleet	-	July 27
City of Nanticoke	-	July 28
City of Port Colborne	-	July 28
Township of Onondaga	-	July 29
Town of Lincoln	-	August 2
Town of Dunville	-	August 2
Town of Milton	-	August 3
Town of Haldimand	-	August 3
City of Burlington	-	August 4
Town of Fort Erie	-	August 4
Town of Stoney Creek	-	August 10

Representatives from the local municipalities included clerks, engineering and planning department heads, road superintendents and planning consultants. The mayors of the Towns of Dunville and Haldimand also attended the meetings in their municipalities.

Meeting format

The meeting formats paralleled those of the region meetings. Most meetings lasted one to two hours.

Questions

The area municipal staff meetings yielded a wide array of questions dealing with approximately fifty different aspects of the OWMC process. However, six questions occurred at more than two of the meetings. These can be paraphrased as follows:

- . "What site area will the OWMC facilities require?"
- . "What area will be required for the buffer zone, and what controls will be placed on buffer areas?"
- . "What are the components of the OWMC facility?"
- . "How will liquid effluent from the physical/chemical treatment plant be dealt with?"
- . "Will hazardous wastes from the U.S.A. be treated?"
- . "Will P.C.B.'s be treated?"

Other topics which were the subject of questions included:

- . Transportation safety - will trucks be placarded?
- . OWMC's schedule for site selection
- . Mapping of candidate areas - how were they selected?
- . Estimated facility costs
- . Alternative disposal techniques, such as deep well injection and storage in disused mines - are these being considered?
- . Site testing - how will access be gained to the sites for drilling and other tests?
- . Site acquisition procedures
- . Land use impacts
- . Municipal benefits
- . Methods for municipalities to input to the site selection process

OWMC and staff responded to the questions and, where possible, undertook to supply reports or information in the near future.

Concerns

As anticipated, the majority of concerns raised at the meetings with area municipal officials dealt with issues related to their particular municipalities. However, several general concerns were voiced:

- . Local benefits/compensation - how much and for whom? (Onondaga)
- . Safeguards for waste transportation (Lincoln)
- . Acceptance of hazardous waste from the U.S.A. (Niagara Falls)
- . Effectiveness of spill clean-up procedures (Lincoln)
- . Reliability of impact predictions prior to the decision to locate (Onondaga)

The most common concern was the adequacy of the municipality's road system to interconnect the site to the 400-series highways (Stoney Creek, Haldimand, Lincoln). This concern was sometimes linked with a concern that possible access routes pass through populated areas.

Other concerns were as follows:

- . Proximity to Niagara River (Fort Erie)
- . Possible negative impact on tourism (Niagara Falls)
- . Gas wells in or near candidate areas (Niagara Falls)
- . Traffic problems on the Q.E.W. notably in the Grimsby-St. Catharines section (Lincoln)
- . Proximity of a candidate area to an environmentally sensitive area (Stoney Creek)
- . Potential conflict with airport operations (Glanbrook)
- . Potential conflict with specialty agriculture, such as orchards and market gardening (Milton)
- . Climatic conditions (fog closures of Mount Hope Airport were noted) as a factor in locating the incinerator (Haldimand)

In Mississauga, officials were concerned that a large site and buffer area would take up a large proportion of the land remaining for development in the city.

Comments

Various suggestions for possible site locations were made by municipal staff. A frequent suggestion was existing lakefront industrial areas with strong transportation access. The Hamilton-Nanticoke corridor was also mentioned. Two areas were suggested by staff for further study within their own municipalities.

Although the primary purpose of the meetings was an exchange of technical information, a number of comments were made regarding public reaction to OWMC's program. In some municipalities, there has been little public interest (Pelham), in others, local residents are seeking or already have Council support to oppose a site (Niagara Falls, Wainfleet), and one Council has passed a by-law prohibiting a site in the municipality (Welland). Other staff noted a degree of confusion in the public mind over the issue because of the concurrent activities of the OWMC, Ministry of Environment, and the respective regions in waste management.

Staff in some municipalities related the histories of past attempts to identify (or oppose) a waste disposal site (Milton, Nanticoke, Wainfleet, Niagara Falls).

Staff generally appeared to be well informed of the OWMC process, and in some cases made positive comments regarding the technical and public participation aspects of the process.

Finally, some specific recommendations were made:

- . Joint OWMC - Regional incinerator (Burlington)
- . Change in terminology from Special Wastes to "Industrial Residues" (Mississauga).

Data received

A listing of all materials received at, and subsequent to, the area municipality meetings is set out in Appendix E, Data Sources.

FOLLOW-UP MEETINGS

Additional meetings with regional or municipal staff were undertaken by the consultants for three purposes:

- . to meet with planning staff who did not attend the initial meeting, or to further discuss planning issues raised at that meeting;
- . to obtain reports and information requested at the initial meeting; and,
- . to verify mapping of land use factors based on these reports and information.

Follow-up meetings were held for the first-stated reason with:

- . Region of Peel - July 20
- . City of Mississauga - August 10

Contacts to obtain reports and information were subsequently held with approximately half of the municipalities, with a large number concentrated in the second two weeks of August. Some contacts consisted of meetings of which brief minutes were taken by the consultants; others consisted merely of a pick-up of information.

Finally, a series of meetings were held with staff of the four regions which have official plans, and with one area municipality to check the accuracy of data mapping based on land use designations shown in official plans. The schedule for these meetings was as follows:

- | | |
|--------------------------------|----------------|
| . Region of Niagara | - September 7 |
| . Region of Haldimand-Norfolk | - September 7 |
| . Region of Hamilton-Wentworth | - September 15 |
| . Region of Halton | - September 16 |
| . City of Mississauga | - September 16 |
| . Region of Niagara | - September 19 |

Planning staff were very helpful, noting errors for corrections and additional uses not identified in the data previously provided, and in making suggestions for clarifying the presentation of the data.

APPENDIX B

DATA SOURCES



DATA SOURCES

INTRODUCTION

The constraint mapping stage of the process relied entirely on secondary sources of data. In order to reduce the potential for errors in the land use, planning and land ownership data base, the extensive municipal meeting program described in the preceding section was utilized as a principal means of obtaining extensive data and documentation. It also established contacts for the consultants in obtaining and verifying data on a continuing basis.

Data obtained by this method included existing land use surveys, official plans, secondary plans, zoning by-laws, property ownership plans, locations of municipally owned lands and facilities, and information on on-going planning studies and applications.

Other data, including aerial photography, were obtained by means of contacts with the provincial ministries of Government Services, Natural Resources and Transportation and Communications; the Ontario Land Corporation; Ontario Hydro; conservation authorities and federal departments.

These data were supplemented on an ongoing basis and were utilized extensively during the site screening and identification of candidate sites stages of the process.

The consultants analyzed the data and established data files for each municipality.

REGIONAL AND COUNTY MUNICIPALITIES**Official plans**

Four of the regional municipalities within the candidate areas have provincially approved official plans. These are, with approval dates:

Niagara	- 1978-81
Haldimand-Norfolk	- 1979-80
Halton	- 1980 - current
Hamilton-Wentworth	- 1980-82

In the instances where more than one date is noted, both the year in which the Minister of Municipal Affairs and Housing gave approval to part of the plan and the year in which the remaining sections were approved by the Minister or by the Ontario Municipal Board are indicated.

The Region of Peel is currently preparing an official plan, but it had not been released as of February, 1984. The County of Brant does not have authority to prepare an official plan.

The importance of regional official plans as part of the overall planning structure within the candidate areas is made clear in the following extract from the Regional Municipality of Niagara Act (similar provisions are also contained in the Acts establishing the other Regions):

"When the Minister has approved an official plan adopted by the Regional Council,

- (a) every (local) Official Plan and every By-law passed under Section 40 of The Planning Act or a predecessor thereof then in effect in the planning area affected thereby shall be amended forthwith to conform therewith;
- (b) no Official Plan of a subsidiary planning area shall be approved that does not conform therewith".

In addition, to the requirement of conformity with the regional official plan, the Haldimand-Norfolk and Hamilton-Wentworth official plans are structured so that the area municipality official plans constitute amendments to the regional plan.

Among the four regional plans, the Hamilton-Wentworth Plan is the only one to designate specific land uses, albeit in generalized fashion, eg. "Industrial - Business Parks" and "Rural Settlements". The Niagara and Halton official plans define the limits of urban areas and the location of hamlets (called "urban study areas" in the Niagara Plan).

With respect to the staging of development, the Niagara plan identifies "deferred" urban areas and the Hamilton-Wentworth plan identifies three stages for development.

Because of the relatively recent approval of most of the regional official plans, there remain areas of discrepancy between some regional and area municipality plans, for example, in the match between the urban area boundaries in the regional plans and the areas designated for urban uses in the area plans.

Development applications

The regional planning departments are actively involved in the approval of draft plans of subdivision and provided up-to-date information on the status of subdivision applications. This supplemented the information obtained from the area municipalities on subdivision and other types of development applications.

Existing land use

Because of the nature of the planning responsibilities of regional municipalities, current land use surveys are not available from the regional planning departments. However, some specific surveys, such as the Niagara Region "Industrial Land Survey Atlas", were consulted.

Land ownership

The Hamilton-Wentworth planning department provided detailed property ownership plans for all of the industrial areas developed by the Region outside of the City of Hamilton.

Regional waste management studies

Regional waste management studies are currently under way in the Regions of Niagara, Peel, Haldimand-Norfolk and Halton. The Halton study commenced in 1983 and the other three studies are in different stages of completion

The Niagara Waste Management Master Plan - Stage 1 report provided the locations of existing municipal and regional landfill sites.

AREA MUNICIPALITIES

The planning data obtained for each of the twenty-two area municipalities in which the candidate areas are located are described generally in the following section.

TOWN OF ANCASTER

Candidate areas

Candidate area 6, deemed suitable for a physical/chemical treatment plant and incinerator, and candidate area 16, deemed suitable for all components, cover part of the south-east corner of the Town.

Existing land uses

Existing land uses were obtained from detailed land use mapping undertaken by the planning staff of the Town.

Development applications

None

Status of official plan

The current approved official plan for the Township was prepared in 1955 when the Township of Ancaster was part of the Hamilton-Wentworth Planning Area. The official plan for the area covering the Township of Ancaster was updated and consolidated in Amendment No. 9 to the official plan of the Hamilton-Wentworth Planning Area, in 1961. This consolidation plus additional site specific amendments passed at that time represents the approved official plan for the town at the present time.

In 1978 the Town adopted a new official plan and submitted it to the Minister of Housing. This plan has, however, not been approved by the Minister pending completion of the regional official plan. The Town is currently completing an updated version of the 1978 plan, however this is not yet complete.

In view of the outdated status of the 1961 consolidation of the official plan, the official plan adopted by Council in 1978 was utilized as the basis for recording land use designations.

CITY OF BURLINGTON

Candidate areas

The City of Burlington is affected by candidate areas 1 and 2 deemed suitable for a physical/chemical treatment plant, and candidate area 3 deemed suitable for a physical/chemical treatment plant and landfill site. Portions of these candidate areas are located in the northern corner of the municipality.

Existing land use

Existing land uses were plotted primarily from 1982 Ministry of Natural Resources (MNR) 1:30 000 scale aerial photography, with additional information from Burlington planning staff.

Status of official plan

The official plan for the Burlington Planning Area is designated Amendment No. 49.

Development applications

None

CITY OF BRAMPTON

Candidate areas

Candidate area 14 includes a small area on the southern boundary of the municipality, on both sides of Highway No. 10. The candidate area is deemed suitable for all facilities.

Candidate area 20 (Area A1) is located to the north east of the built up area of the City of Brampton, and is being examined for its suitability for all facilities.

Existing land use

Existing land use was obtained from 1982 MNR 1:30 000 scale aerial photography.

Development applications

Development application data in the form of copies of residential and industrial draft plans of subdivision were provided by municipal planning staff.

Status of official plan

A new official plan was recently adopted by Council and provincial approval has recently been obtained. However portions of the plan which affect Candidate Area 20 were referred to the Ontario Municipal Board. However, much of the candidate area falls within the Fletchers Creek South Secondary Plan which was approved in 1982 as Amendment No. 61 to the current official plan. The new official plan and the secondary plan are not in conflict with respect to the land use designations shown for this area.

TOWNSHIP OF BRANTFORD

Candidate areas

Part of candidate area 7, deemed suitable for a physical/chemical treatment plant and incinerator, is located in the south-eastern corner of the Township of Brantford.

Existing land use

Existing land uses were derived from analysis of 1982 MNR 1:30 000 aerial photography.

Development applications

None

Status of official plan

The Township official plan was prepared in 1973 and amended in its entirety in 1981 by Amendment No. 7, and subsequently by Amendment No. 9. The amended plan has been approved by the province.

TOWN OF DUNNVILLE

Candidate areas

Candidate area 8 is located in the north-western corner of the Town of Dunnville, abutting West Lincoln Township on the north and Haldimand on the east. The candidate area is deemed suitable for a physical/chemical treatment plant and an incinerator.

Existing land use

Land use data were obtained from a land use plan prepared by the Region of Haldimand-Norfolk Planning Department, 1981, supplemented by analysis of 1983 MNR 1:30 000 aerial photography.

Development applications

None

Status of official plan

The Town of Dunnville District Plan, Amendment No. 6 to the Official Plan of the Haldimand-Norfolk Planning Area, was adopted by Regional Council in May of 1982 and is awaiting Ministerial approval. Sections of the plan may be deferred by the Minister.

The official plan designations for the candidate area include agricultural, hazard area and the hamlet areas of Canborough and Oswego Park.

TOWN OF FORT ERIE

Candidate areas

The north-central part of the Town of Fort Erie is affected by candidate area 13, deemed suitable for a physical/chemical treatment plant and incinerator.

Existing land use

Existing land use was obtained primarily from a 1982 land use survey undertaken by the Town's planning consultants, supplemented by examination of property plans supplied by the Town and by analysis of 1983 MNR 1:30 000 aerial photography.

Development applications

None

Status of official plan

The official plan for the Town of Fort Erie was adopted by the Town in 1972 and approved by the Minister of Housing in December 1974. An official plan review and update, begun in 1982, is currently underway and a draft official plan has been proposed; however the plan does not yet have Council approval. It is understood that the proposed modifications as they affect the candidate area are relatively minor. Land use designations were obtained from the 1974 official plan.

TOWNSHIP OF GLANBROOK

Candidate areas

The Township of Glanbrook is affected by candidate areas 6 and 16 in the south-west corner and candidate areas 8, 9, 17 and 18 in the centre and south-east portions of the Township.

Candidate areas 6, 8 and 9 are deemed suitable for a physical/chemical treatment plant and incinerator, and candidate areas 16, 17 and 18 are suitable for all components.

Existing land use

Existing land use was obtained from analysis of 1983 MNR 1:30 000 scale aerial photography, and checked against a 1975 existing land use survey on file with the Township.

Development applications

None

Status of official plan

Glanbrook Township was created by the merger of two former townships, Glanford and Binbrook, both of which had official plans at the time of municipal reorganization. A draft official plan for the Township of Glanbrook was prepared in 1978, but approval by the province was delayed pending the approval of the Regional official plan. Township staff indicated that the draft requires further revision in order to reflect the current status of development in Glanbrook.

Official plan designations were derived from the December, 1981, draft official plan for the Township, which has been adopted in principle by Township Council. Reference was also made to draft Amendments 138 and 139 and to approved Amendment 159 with respect to the North Glanbrook Industrial Park. The 1978 draft official plan defines the area surrounding Mount Hope and the airport as a Special Study Area and does not define land uses within this area. Designations for the Mount Hope Area have been taken from the Mount Hope Special Study Area: Development Concept, approved by Council in 1982, and the draft Land Use Plan attached to the new Official Plan draft.

TOWN OF HALDIMAND**Candidate areas**

The northern section of the Town of Haldimand is affected by candidate areas 7 and 8, deemed suitable for the physical/chemical treatment plant and incinerator, and candidate areas 16 and 17, deemed suitable for all components.

Existing land use

Existing land use was obtained from analysis of 1983 MNR 1:30 000 scale aerial photography.

Development applications

None

Status of official plan

The Town of Haldimand District Plan, Amendment No. 3 to the official plan of the Haldimand-Norfolk Planning Area, was prepared in 1980 and approved by the Town and Region in 1982. Provincial approval is pending.

TOWN OF LINCOLN

Candidate areas

Candidate areas 9 and 10 are located in the two most southerly concessions in the area municipality. One is contiguous to West Lincoln Township, the other to the Town of Pelham. The two areas are separated by the Twenty-Mile Creek valley.

Both candidate areas are deemed suitable for the physical/chemical treatment plant and the incinerator.

Existing land use

Existing land use data sources included:

- Map attached to Lincoln official plan Modification #28, 1982.
- Existing Land Use (Appendix 4 to the official plan, 1970).
- Ministry of Natural Resources 1:30 000 aerial photography dated 1983.

Development applications

None

Status of official plan

The official plan for the Town of Lincoln was approved in part by the Minister in April, 1978. Several portions of this document were deferred as a result of Regional matters concerning urban area boundaries. The outstanding matters were approved in January, 1982.

TOWN OF MILTON

Candidate areas

Candidate areas 1 and 2 deemed suitable for a physical/chemical treatment plant, area 3 deemed suitable for a physical/chemical treatment plant and landfill, candidate area 5 deemed suitable for a physical/chemical treatment plant and incinerator, and candidate area 15 deemed suitable for all components, are located wholly or in part in the Town of Milton.

Existing land use

Existing uses are plotted from MNR 1:30 000 scale aerial photography, from Town of Milton property plans and from Milton planning staff comments.

Development applications

None

Status of official plan

The present official plan was approved by the province in 1969. A new Plan was adopted by Town Council in June of 1982 and has been submitted to the province for approval.

The 1982 official plan was utilized as the basis for land use designations. There are no Secondary Plans within the candidate areas.

CITY OF MISSISSAUGA

Candidate areas

The candidate areas in the City of Mississauga are located in the north-central part of the municipality. Candidate area 4 is deemed suitable for the physical/chemical treatment plant and incinerator, and candidate area 14 for all three components.

Existing land use

Existing land uses were obtained primarily from the existing land use plans contained in the secondary plans, and also from 1982 MNR 1:30 000 scale aerial photography.

Development applications

None

Status of official plan

The city's official plan was approved by the province in 1981, with a number of deferred sections approved in 1982. The plan designates the candidate areas in part for industrial and residential uses, with a substantial area designated for future study to determine its future use.

The city's official plan provides for the adoption of secondary plans for each community. Several of these secondary plans alter the boundaries of the land use designations set out in the official plan.

The relevant secondary plans, and their status as of August, 1984, are noted as follows:

- Hurontario Secondary Plan (Residential) - Council approved and awaiting provincial approval.
- East Credit Secondary Plan (Residential) - awaiting Council approval.
- Derry East Business Park (Industrial) - unapproved draft with no formal council approval. The plan had been released to the public then retracted awaiting a decision on the "Trillium" domed stadium proposal.
- Britannia West Secondary Plan (Industrial) - presently before the Minister of Municipal Affairs and Housing for review and comment.

According to the Mississauga staff, decisions regarding the above-noted secondary plans are withheld pending a final resolution of the domed stadium proposal.

For the purposes of the factor mapping, the land use designations shown in the draft secondary plans have been utilized rather than those of the overall official plan. The most significant consequence of this is that a large part of the area designated in the official plan for future study, east of Hurontario Street, is designated in the Derry East Plan for Industrial and Prestige Industrial uses; the official plan will be modified to accommodate this change concurrent with the approval of the secondary plan.

Development applications

Development application information was obtained from two sources. Subdivision applications were obtained from a Mississauga Planning Department plan, "Proposed Subdivisions", showing the current status of these applications. Rezoning applications were recorded from a similar record of rezoning applications. In all cases, only recent, ie. 1980-1983, applications were recorded. (Planning staff indicate that applications prior to this date can be considered inactive).

The City of Mississauga and private interests have proposed that a site in the north-west quadrant of Highways 401 and 10 be considered for a domed stadium to serve the Toronto-Peel-Halton area.

CITY OF NANTICOKE

Candidate areas

A section of the City in the vicinity of the hamlet of Springvale is included in candidate area 7, which is deemed suitable for the physical/chemical treatment plant and incinerator.

Development applications

None

Existing land use

Existing land use was derived from analysis of the 1983 MNR 1:30 000 scale aerial photography.

Status of official plan

The official plan for the City of Nanticoke consists of Amendment No. 5 to the official plan for the Haldimand-Norfolk Planning Area. It was approved (except for some referrals and deferrals) by the Province in June, 1983.

CITY OF NIAGARA FALLS

Candidate areas

A large part of the southern half of the City of Niagara Falls is affected by candidate area 13, deemed suitable for a physical/chemical treatment plant and incinerator, and candidate area 19, deemed suitable for all components.

Existing land use

Existing land uses were derived from the August, 1980 existing land use survey prepared by City staff, supplemented by analysis of 1983 MNR 1:30 000 scale aerial photography.

Development applications

Development application information was provided by planning staffs of the City of Niagara Falls and Region of Niagara. Of particular note is a 1978 registered plan for the second phase of the Falls Industrial Park in Lots 215 and 216.

Status of official plan

The City of Niagara Falls was amalgamated with portions of four adjacent municipalities in 1970. As a result of this amalgamation, the City is covered by four different official plans, each of which is an amendment to the original plan for the Niagara Falls and Suburban Planning Area. The candidate areas include portions of three of these, ie. the plans covering Niagara Falls, Crowland-Humberstone and Willoughby.

City of Niagara Falls Amendment No. 28 covers the area north of the Welland River. Crowland-Humberstone Amendment No. 6 covers the area south of the Welland River and west of Montrose Road. A small area falls within Willoughby Amendment No. 29.

A new, consolidated official plan for the entire municipality has been prepared and is expected to be considered by Council in late 1984. The draft made available in mid-1983 shows substantial changes in the land use designations along the Welland River, particularly in the designation of a substantial block of open space uses on the south side of the river. It also introduces a Rural designation for non-urban lands which do

not qualify for the "Good General Agriculture" category. The proposed Rural designation falls between the Q.E.W., Lyons Creek, Usshers Creek and the Village of Chippawa.

The official plan designations were taken from the mid-1983 draft of the revised City of Niagara Falls official plan.

TOWN OF OAKVILLE

Candidate areas

The Town of Oakville is affected by a small part of candidate area 5, deemed suitable for the physical/chemical treatment plant and incinerator.

Existing land use

Existing land uses were obtained from 1982 MNR 1:30 000 scale aerial photography, supplemented by comments by Oakville planning staff.

Development applications

None

Official plan

The current official plan was approved by the Province in May, 1983. The plan designates the candidate area for "Parkway Belt West" uses. There is no secondary plan contemplated for this area.

TOWNSHIP OF ONONDAGA

Candidate areas

The Township of Onondaga is affected by candidate area 7, deemed suitable for the physical/chemical treatment plant and incinerator and by candidate area 16, deemed suitable for all components.

Existing land use

Existing land use data are based on analysis of 1983 MNR 1:30 000 scale aerial photography.

Development applications

None

Status of official plan

The official plan of the Onondaga Planning Area was approved by the Province in 1969, and has been amended three times, in 1980, 1982 and 1983. Official plan designations were derived from the current office consolidation of the official plan.

TOWN OF PELHAM

Candidate areas

Candidate area 9 includes a small area in the north-west corner of the Town of Pelham. This area is deemed suitable for the physical/chemical treatment plant and an incinerator. Candidate area 18 includes an area located adjacent to the Welland River, in the southern part of Pelham. This candidate area is deemed suitable for all three components.

Existing land use

Existing land uses were obtained from 1983 MNR 1:30 000 scale aerial photography and from the existing land use survey undertaken by Miller O'Dell and Paul in 1981.

Development applications

None

Status of official plan

The official plan for the Town of Pelham was approved by the Minister of Housing in 1974 and since that time has been the subject of a number of amendments. With the exception of Amendment No. 7, these amendments have been site specific and either do not affect the candidate area or have not yet received approval.

Amendment No. 7 updated the 1974 official plan in order to conform with the approved Regional policies. The amendment has resulted in a number of policy changes in the text as well as revisions to the land use designations on the accompanying schedule. This amendment was adopted by Council in October, 1982; however in July, 1983, Council passed a further resolution to defer section 14 of the amendment pending further public hearing of this matter. Section 14 concerns the Welland River Floodway and Floodfringe.

TOWN OF STONEY CREEK

Candidate areas

Candidate area 10 in the Town of Stoney Creek is situated in the south-east corner of the municipality. The area is deemed suitable for a physical/chemical treatment plant and an incinerator.

Existing land use

Existing land uses were obtained from a detailed land use inventory of the candidate area prepared by town planning staff in August, 1983 and from 1983 MNR 1:30 000 aerial photography.

Development applications

None

Status of official plan

The candidate area is subject to the provisions of the Township of Saltfleet official plan. The Township of Saltfleet official plan comprises Amendment No. 4 to the official plan of the Hamilton-Wentworth Planning Area. This plan was originally approved by the Minister in 1962 and has been updated with approved amendments to October, 1982.

CITY OF THOROLD

Candidate areas

Candidate area 13 is situated in the south-east corner of the City of Thorold. The candidate area is deemed suitable for a physical/chemical treatment plant and an incinerator.

Existing land uses

Existing land uses sources included a land use inventory of the candidate area prepared by the assessment clerk on assessment base maps, 1983 MNR 1:30 000 aerial photographs, and the Industrial Survey Atlas prepared by the Regional Municipality of Niagara.

Development applications

None

Status of official plan

The City of Thorold does not currently have an approved official plan. The official plan adopted by Council in February of 1983 is still awaiting Provincial approval. It was therefore necessary to use the land use designations in the draft official plan.

The proposed official plan designates the candidate area for Dry Industrial and Rural land uses. The Dry Industrial designation applies to Lots 178, 195 and 196, the lands presently occupied by Cyanamid and B.F. Gooderich.

Based on the proposed official plan, future industrial development will be encouraged to locate in the Blackhorse (serviced) and Allanburg (unserviced) areas. These are located to the north and north-west of the candidate areas.

The majority of the non-urban designations include Park and Open Space, primarily associated with lands located along the Welland Canal, and Rural designations. (The south-east area of the municipality is designated for Rural uses.)

The Rural designation identifies areas of lesser agricultural capability. The designation permits public utility facilities provided that they are in keeping with the

character of the surrounding uses. The Agricultural designation also permits public utility facilities such as waste disposal sites, with the preference being that these facilities not be located on good general agricultural lands.

TOWNSHIP OF WAINFLEET

Candidate areas

Candidate areas 11, 12 and 18 occupy approximately half of the Township of Wainfleet, primarily in the north and central sections.

The majority of the candidate area is deemed to be suitable for a physical/chemical treatment plant, an engineered landfill and an incinerator. Two smaller areas located within the candidate area are suitable only for a physical/chemical treatment plant and an incinerator.

Existing land use

Existing land uses were mapped from MNR 1983 1:30 000 aerial photography.

Development applications

None

Status of official plan

The official plan for the Wainfleet Planning Area was approved by the Council of the Township of Wainfleet in 1974. The official plan, in modified form, was approved by the Province in 1979.

Since that time there have been a number of approved amendments to the official plan. Amendment No. 4, approved by Council in June 1982, would change the land use designation of surplus St. Lawrence Seaway Authority lands, fronting on the south side of Lambeth Road in Lots 7-10, Concession 5, from Rural to Industrial uses, and remove the Industrial designation from lands in Lots 1-4. Amendment No. 4 has the support of the Region of Niagara and is presently before the Ministry of Municipal Affairs and Housing for approval. The Ministry of Agriculture and Food has objected on the basis that the land is classified Class 2W for agricultural purposes. Amendment No. 4 has been used for data mapping purposes as if approved.

The majority of the planning area is designated Rural, in which the dominant land uses include agriculture, forestry and activities associated with the conservation of soil and wildlife. Non-farm uses may be permitted on lands exhibiting lower agricultural capability, however an amendment to the official plan would be required for such uses.

Industrially designated lands are located in Concession 2 and 3, Lots 3 and 4, adjacent to the Wainfleet Marsh. Permitted uses for these lands include manufacturing, assembly, processing and fabrication of a "dry" nature, warehousing, and storage of goods and materials.

CITY OF WELLAND

Candidate areas

The City of Welland is affected by candidate area 18, deemed suitable for all components, and candidate area 12, which is deemed suitable to accommodate a physical/chemical treatment plant and an incinerator. The candidate area borders the built-up part of Welland on the east, south and west.

Existing land use

Existing land use was derived from analysis of 1983 MNR 1:30 000 scale aerial photography.

Development applications

Development application data were taken from the December 31, 1982, "Subdivision Status Report", with additional information obtained from the City of Welland and the Region of Niagara planning departments.

Status of official plan

City Council adopted a new official plan in 1975 which has not been approved by the Province. However, City planning staff advise that it has been upheld at several Ontario Municipal Board hearings and is used to guide development in the City.

A revised draft is currently in preparation, which we are advised does not differ substantially from the 1975 version, with two exceptions.

The plan designates extensive areas for new industrial development east of the Welland Canal and elsewhere in the candidate area. The 1975 draft Official Plan designates lands east of the Welland Canal for industrial uses as far east as Lot 15. However, planning staff advise that this designation will only extend as far east as the C.N. rail line in Lot 16 in the new Official Plan. This information is reflected in the mapping.

The 1975 official plan was used as the basis for official plan designations.

TOWNSHIP OF WEST LINCOLN

Candidate areas

Candidate areas 8, 9, 10 and 18 in the Township of West Lincoln cover the majority of this municipality.

Candidate area 18 is deemed suitable for all three facilities. This candidate area is located centrally within the township and includes the hamlets of Bismarck, Wellandport, Boyle, Caistor Centre and Abingdon.

Candidate area 8 is suitable for a physical/chemical treatment plant and an incinerator. This candidate area includes the hamlets of Caistorville, Winslow, and Attercliffe.

The remaining two candidate areas are located in the northern part of the Township. The hamlets of St. Anns and Fulton are situated in candidate areas 9 and 10, respectively.

Existing land uses

Existing land uses were obtained from the existing land use map of the official plan, as noted above. Built-up areas were also identified from the 1983 MNR 1:30 000 aerial photography and from a 1972 land use survey prepared by the Township.

Development applications

None

Status of official plan

The official plan for the West Lincoln Planning Area was adopted by Council in 1975 and approved by the Minister of Housing in 1979.

Since that time, there have been four amendments to the official plan. The most recent, Amendment No. 4, approved in July, 1983, identified the boundaries of the 13 hamlets in the Township.

With the exception of the new industrial park designation in Smithville, there are no industrially designated lands in West Lincoln. Small scale industrial uses may be permitted if directly related to and serving the surrounding agricultural area.

A discrepancy exists between the official plan for the Township of West Lincoln and the Regional Niagara Policy Plan with respect to boundaries of the Smithville industrial area. The Township Plan recognizes all lands in Lot 5, Concession IX lying south of the Toronto-Hamilton and Buffalo Railway line as being within the Smithville urban area. These lands are designated and zoned industrial by the Township for industrial uses.

The Regional Policy Plan, however, does not designate the easterly portion of Lot 5 as part of the urban area and, therefore, appears to restrict the range of permitted uses on these lands. The incompatibility between planning documents is now being reviewed by Regional Niagara planning staff.

REGIONAL ASSESSMENT OFFICES

The consultants had varying degrees of success in obtaining property ownership mapping from the regional assessment offices and from other sources. The following summarizes the status of property mapping acquisition as of the end of August, 1983.

- Peel** - Maps covering the candidate areas were obtained for Mississauga from the municipality. No mapping was obtained for Brampton.

- Halton - Maps covering the candidate areas in Milton and Burlington have been obtained from the municipalities. No mapping was obtained for Oakville.
- Hamilton-Wentworth - Key maps for Ancaster and Glanbrook have been obtained from the Regional Assessment Office. Land ownership mapping for Stoney Creek was obtained from the municipality.
- Brant County/
Haldimand-
Norfolk - Land ownership maps were obtained for all candidate areas.
- Niagara - Land ownership maps were obtained for all candidate areas.

Additional land ownership information can be collected from assessment rolls and registry offices, as necessary. This work will be undertaken when candidate sites have been identified.

CONSERVATION AUTHORITIES

Mapping of Conservation Authority property ownership was obtained from the following Conservation Authorities:

- . Metropolitan Toronto Region
- . Credit Valley
- . Halton Region
- . Hamilton Region
- . Grand River
- . Niagara Peninsula

PROVINCIAL MINISTRIES AND AGENCIES

Ministry of Government Services

Ministry of Government Services (MGS) staff provided plans for all MGS land holdings within the candidate areas. MGS also provided a computer printout of all provincially-owned lands in Southern Ontario, and staff reviewed the consultant's plotting of the lands within the candidate areas.

MGS mapping includes the lands owned by most provincial ministries, with the following exceptions:

- . Ministry of Municipal Affairs and Housing
- . Ministry of Transportation and Communications
- . Ontario Land Corporation
- . Ontario Hydro

Ministry of Natural Resources

Ministry of Natural Resources (MNR) 1:30 000 scale aerial photography, flown at a height of 15 600-15 900 feet, was analyzed in stereoscopic pairs to identify areas of existing development in each of the municipalities under study.

The MNR photography for Peel and Halton was flown in October, 1982, and the balance of the study area in May, 1983.

Initially, the aerial photography was utilized to establish the limits of urban development. Subsequently, the photographs were examined to identify built-up development in rural areas.

Concerning land holdings, it was determined that MNR does not have any land holdings within the candidate areas.

APPENDIX F

IDENTIFICATION OF POTENTIAL SITES FACTORS

**IDENTIFICATION OF
POTENTIAL SITES**

SITE AREA FACTOR #1

Factor Groupings:
Land Use, Planning and Land Ownership
Factors:
Existing Industrial Uses

DEFINITION OF FACTOR:

Existing industrial uses within site areas.

RATIONALE/SIGNIFICANCE:

Generally, the more industrial the character of the site, the less the likelihood of land use conflict and adverse social and economic impact. Much depends on the character of the industry. Worker populations may be an indicator of risk.

If the industrial use is to be displaced by an OWMC facility, re-establishment of the use will be an important consideration in minimizing impact on employment and the municipal tax base.

SOURCES OF INFORMATION:

Aerial Photography - 1982 and 1983 (Scale 1:30 000)
Aerial Photography - 1978 (Scale 1:10 000)

Site Investigation

Area Municipalities - Existing Land Use Mapping
- Property Mapping

Regional Industrial Land Inventories
Regional Assessment Mapping

INTERPRETATION/METHODOLOGY:

Existing industrial uses were identified by aerial photography interpretation and site investigation.

In Niagara and Hamilton-Wentworth Regions, reference was also made to industrial area mapping prepared by Region planning staff.

CRITERIA/INDICATORS:

The following indicators were used.

- . Industrial buildings
- . Industrial use of land, including storage, waste dumping, landscaping, parking, etc.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

The scale and date of aerial photography were limitations on accuracy of interpretation.

**IDENTIFICATION OF
POTENTIAL SITES**

SITE AREA FACTOR #3

Factor Groupings:

Land Use, Planning and Land Ownership

Factor:

Future Industrial Uses

DEFINITION OF FACTOR:

Lands designated in official plans for industrial uses but currently vacant, and lands for which application has been made for planning approval of development including official plan amendments, draft plans of subdivision, and rezoning applications, which are pending with the relevant area municipality or regional municipality, or are awaiting approval or decision by the Minister of Municipal Affairs and Housing or the Ontario Municipal Board.

RATIONALE/SIGNIFICANCE:

The OWMC facilities, except for the landfill, are essentially industrial in character and will have a substantial degree of compatibility with most future industrial uses.

SOURCES OF INFORMATION:

Regional Municipality - Planning staff reports

Area Municipality - Planning staff reports

Site Investigation

INTERPRETATION/METHODOLOGY:

Lands subject to residential development applications were determined by review of development application status reports of regional and area municipality planning staffs and discussions with staff.

Development proposals were plotted on 1:10 000 base maps of site areas and vicinity.

CRITERIA/INDICATORS:

Listing by a regional or area municipality planning staff of an application for planning approval of an industrial development.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF
POTENTIAL SITES**

SITE AREA FACTOR #3

Factor Groupings:

Land Use, Planning and Land Ownership

Factor:

Existing Residential Uses

DEFINITION OF FACTOR:

Existing residential uses within site areas.

RATIONALE/SIGNIFICANCE:

The number of residential units within site areas is a good indication of the degree of risk, economic and social impact which may result from the establishment of a facility component on the site.

In terms of site acquisition, the greater the degree to which site areas have residential uses, the greater the degree to which sites will have fragmented ownership, thereby increasing the time and cost of site acquisition.

SOURCES OF INFORMATION:

Aerial Photography - 1982 and 1983 (Scale 1:30 000)

Aerial Photography - 1978 (Scale 1:10 000)

Site Investigation

Area Municipalities - Existing Land Use Mapping

INTERPRETATION/METHODOLOGY:

Existing residential uses were identified by aerial photography interpretation and field investigation.

CRITERIA/INDICATORS:

The location of residences and farm residences.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

The scale and date of aerial photography were limitations on accuracy of interpretation.

**IDENTIFICATION OF
POTENTIAL SITES**

SITE AREA FACTOR #4

Factor Groupings:
Land Use, Planning and Land Ownership
Factor:
Future Residential Uses

DEFINITION OF FACTOR:

Lands designated in official plans for residential uses but currently vacant, and lands for which application has been made for planning approval of development including official plan amendments, draft plans of subdivision, and rezoning applications, which are pending with the relevant area municipality or regional municipality, or are awaiting approval or decision by the Minister of Municipal Affairs and Housing or the Ontario Municipal Board.

RATIONALE/SIGNIFICANCE:

Proposals for future residential development will generally be in proximity to existing residential uses. The location of an industrial facility in an area with potential for residential development is undesirable.

SOURCES OF INFORMATION:

- | | | |
|-----------------------|---|-------------------------------------|
| Regional Municipality | - | Planning staff reports and comments |
| | - | Official Plans |
| Area Municipality | - | Planning staff reports and comments |
| | - | Official Plans |

Site Investigation

INTERPRETATION/METHODOLOGY:

Lands subject to residential development applications were determined by review of development application status reports of regional and area municipality planning staff and discussions with staff. In some instances, the status of applications was reviewed with staff of the Ministry of Municipal Affairs and Housing.

Development proposals were plotted on 1:10 000 base maps of site areas and vicinity.

CRITERIA/INDICATORS:

Listing by a regional or area municipality planning staff of an application for planning approval of a residential development.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF
POTENTIAL SITES**

SITE AREA FACTOR #5

Factor Groupings:

Land Use, Planning and Land Ownership

Factor:

Existing Commercial Uses

DEFINITION OF FACTOR:

Existing commercial uses within site areas.

RATIONALE/SIGNIFICANCE:

Commercial activities represent a constraint to development, depending on the size and type of the commercial use, and ease of relocation. They are an indicator of extent of risk. Minimizing impact on employment and municipal tax base will be considerations.

Capital investment in commercial facilities is generally intensive. The potential closure of small businesses is a concern. Such uses would be very resistant to relocation.

SOURCES OF INFORMATION:

Aerial Photography - 1982 and 1983 (Scale 1:30 000)

Aerial Photography - 1978 (Scale 1:10 000)

Site Investigation

- Area Municipalities - Existing Land Use Mapping
- Property Mapping

INTERPRETATION/METHODOLOGY:

Existing commercial uses were identified by aerial photography interpretation and site investigation.

CRITERIA/INDICATORS:

The following criteria were used:

- . Commercial buildings
- . Commercial uses of land, including landscaping, storage, parking

COMMENTS/ASSUMPTIONS/LIMITATIONS:

The scale and date of aerial photography were limitations on accuracy of interpretation.

**IDENTIFICATION OF
POTENTIAL SITES**

SITE AREA FACTOR #6

Factor Groupings

Land Use, Planning and Land Ownership

Factor:

Future Commercial Uses

DEFINITION OF FACTOR:

Lands designated in official plans for commercial uses but currently vacant, and lands for which application has been made for planning approval of development including official plan amendments, draft plans of subdivision, and rezoning applications, which are pending with the relevant area municipality or regional municipality, or are awaiting approval or decision by the Minister of Municipal Affairs and Housing or the Ontario Municipal Board.

RATIONALE/SIGNIFICANCE:

Proposals for future commercial development may be in the vicinity of a market population. The potential closure of small businesses is a concern. The loss of capital investment in the area is a potential concern.

SOURCES OF INFORMATION:

Regional Municipality - Planning staff reports and comments

Area Municipality - Planning staff reports and comments

Site Investigation

INTERPRETATION/METHODOLOGY:

Lands subject to commercial development applications were determined by review of development application status reports of regional and area municipality planning staff and discussions with staff. In some instances, the status of applications was reviewed with staff of the Ministry of Municipal Affairs and Housing.

Development proposals were plotted on 1:10 000 base maps of site areas and vicinity.

CRITERIA/INDICATORS:

Listing by a regional or area municipality planning staff of an application for planning approval of a commercial development.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF
POTENTIAL SITES**

SITE AREA FACTOR #7

Factor Groupings:

Land Use, Planning and Land Ownership

Factor:

Provincial Planning Areas

DEFINITION OF FACTOR:

Lands designated within the Parkway Belt Planning Area and the Niagara Escarpment Planning Area.

RATIONALE/SIGNIFICANCE

These two planning documents are significant to specific candidate sites. The Parkway Belt Plan restricts uses to those "compatible" with the Parkway Belt, i.e., agricultural and recreational uses, transportation, utility and pipeline corridors and other acceptable uses. The Niagara Escarpment (N.E.C.) Plan controls are aimed at preserving the natural character of the Escarpment and its adjacent scenic areas and its provisions would prohibit OWMC type facilities.

Both the Parkway Belt and N.E.C. are recognized as land use categories in the Halton Region Official Plan and in Area Municipality Official Plans.

SOURCES OF INFORMATION:

Parkway Belt West Plan, July 1978, as amended.

The Final Proposed Plan for the Niagara Escarpment, June 1983, Niagara Escarpment Commission.

INTERPRETATION/METHODOLOGY:

The incidence of this factor was plotted on 1:50000 scale base mapping of the candidate areas and vicinity.

CRITERIA/INDICATORS:

The incidence of the designations in the above-noted documents.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

The Parkway Belt West Plan is under review and may be modified in the next year.

The N.E.C. Plan was approved with modifications in June, 1984.

**IDENTIFICATION OF
POTENTIAL SITES**

SITE AREA FACTOR #8
Factor Grouping:
Land Use, Planning and Land Ownership
Factor:
Publicly Owned Lands

DEFINITION OF FACTOR:

Publicly owned lands include those lands owned by federal, provincial or municipal agencies.

RATIONALE/SIGNIFICANCE:

Publicly owned lands are intended for uses which benefit the population at large. Use of these lands would minimize impacts upon private landowners. More specifically, the location of an OWMC facility on publicly owned lands would involve less acquisition of lands in private ownership.

Publicly owned lands may also represent a siting opportunity depending upon the nature of the lands and the existing land use.

SOURCES OF INFORMATION:

- | | | |
|-------------------------|---|---------------------------|
| Area Municipalities | - | Official Plans |
| | - | Existing Land Use Mapping |
| | - | Zoning By-laws |
| | - | Planning Staff Reports |
| Regional Municipalities | - | Official Plans |

Aerial Photography - 1982 and 1983 (Scale 1:30000)

INTERPRETATION/METHODOLOGY:

Public ownership may facilitate acquisition and therefore represent a siting opportunity.

The incidence of this factor was on 1:50000 scale base mapping of the candidate areas and vicinity.

CRITERIA/INDICATORS:

Incidence of publicly owned lands in the above-noted documents.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

At the site selection stage ownership and tenancy of a parcel will be determined as recorded in registry and assessment offices.

**IDENTIFICATION OF
POTENTIAL SITES**

SITE AREA FACTOR #9

Factor Grouping:

Land Use, Planning and Land Ownership

Factor:

Rural/Agricultural Land Use Designations

DEFINITION OF FACTOR:

Rural and/or Agricultural designations in area municipality Official Plans which refer to non-urban lands, whether currently in agricultural or other rural use.

RATIONALE/SIGNIFICANCE:

The majority of area municipality official plans utilize the terms "rural" and "agricultural" interchangeably to refer to all those lands not designated for urban uses. This indicator identifies lands designated for the continuation of rural/agricultural uses, regardless of the significance of the lands from an agricultural perspective. It is noted, however, that the degree of constraint will vary depending on the permitted land uses within each designation. In some cases, the agricultural designation refers to prime agricultural lands (a high constraint) while rural refers to the balance of the lands (somewhat lesser constraint).

SOURCES OF INFORMATION:

Area Municipalities Official Plans

Regional Municipalities Official Plans

INTERPRETATION/METHODOLOGY:

In most official plans, the rural and agricultural designations represent virtually the same land use opportunities. The incidence of these designations was plotted on 1:10000 scale base mapping of the potential site areas.

CRITERIA/INDICATORS:

Incidence of rural and agricultural land use designations in area and regional municipality official plans. Where distinction is made between prime and non-prime agricultural lands in the designations, the relative degree of constraint is noted.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Some rural designations apply to non-prime agricultural lands.

**IDENTIFICATION OF
POTENTIAL SITES**

SITE VICINITY FACTOR #1
Factor Groupings:
Land Use, Planning and Land Ownership
Factors:
Existing Industrial Uses

DEFINITION OF FACTOR:

Existing industrial uses in the vicinity of site areas.

RATIONALE/SIGNIFICANCE:

Generally, the more industrial the character of the site vicinity, the lesser the likelihood of land use conflict and adverse social and economic impacts, particularly with physical/chemical treatment sites.

SOURCES OF INFORMATION:

Aerial Photography - 1962 and 1963 (Scale 1:30 000)
Aerial Photography - 1978 (Scale 1:10 000)

Site Investigation

Area Municipalities	-	Existing Land Use Mapping
	-	Property Mapping

Regional Industrial Land Inventories

INTERPRETATION/METHODOLOGY:

Existing industrial uses were identified by aerial photography interpretation and site investigation, and confirmed with municipal data.

In Niagara and Hamilton-Wentworth Regions, reference was also made to industrial area mapping prepared by Region planning staff.

CRITERIA/INDICATORS:

The following indicators were used in mapping industrial uses:

- . Industrial buildings
- . Industrial use of land, e.g., storage, waste dumping, landscaping, parking, etc.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

The scale and date of aerial photography were limitations on accuracy of interpretation.

**IDENTIFICATION OF
POTENTIAL SITES**

SITE VICINITY FACTOR #1

Factor Groupings:
Land Use, Planning and Land Ownership
Factors:
Future Industrial Uses

DEFINITION OF FACTOR:

Lands designated in official plans for industrial uses but currently vacant, and lands for which application has been made for planning approval of development including official plan amendments, draft plans of subdivision, and rezoning applications, which are pending with the relevant area municipality or regional municipality, or are awaiting approval or decision by the Minister of Municipal Affairs and Housing or the Ontario Municipal Board.

RATIONALE/SIGNIFICANCE:

The OWMC facilities, except for the landfill, are essentially industrial in character and will have a substantial degree of compatibility with most future industrial uses.

SOURCES OF INFORMATION:

Regional Municipality	-	Planning staff reports
Area Municipality	-	Planning staff reports
Site Investigation		

INTERPRETATION/METHODOLOGY:

Lands subject to industrial development applications were determined by review of development application status reports of regional and area municipality planning staffs and discussions with staff.

Development proposals were plotted on 1:10 000 base maps of site areas and vicinity.

CRITERIA/INDICATORS:

Listing by a regional or area municipality planning staff of an application for planning approval of an industrial development.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF
POTENTIAL SITES**

SITE VICINITY FACTOR #3

Factor Groupings:

Land Use, Planning and Land Ownership

Factors:

Existing Residential Uses

DEFINITION OF FACTOR:

Existing residential uses in the vicinity of site areas.

RATIONALE/SIGNIFICANCE:

Residential and industrial uses are generally considered incompatible because of the residents' resistance, and health and safety concerns stemming from industrial noise and vibrations, dust, odours, and truck traffic. The number of residences is an indicator of the extent of risk, social and economic impacts which may result from establishment of a facility component nearby. Residential areas have high day- and night-time populations and high percentage concentrations of at-risk populations, e.g., the young and the elderly. Residential areas may be difficult to evacuate in the event of accidents. Where the residential area depends on wells or a local watercourse for its water supply, there may be concern over the maintenance of water quality.

SOURCES OF INFORMATION:

Aerial Photography - 1982 and 1983 (Scale 1:30 000)

Aerial Photography - 1978 (Scale 1:10 000)

Site Investigation

- | | | |
|---------------------|---|---------------------------|
| Area Municipalities | - | Property Mapping |
| | - | Existing Land Use Mapping |

INTERPRETATION/METHODOLOGY:

Existing residential uses were identified by aerial photography interpretation and site investigation, and confirmed with municipal data where available.

CRITERIA/INDICATORS:

The location of farm and non-farm residences, and residential clusters.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

The scale and date of aerial photography were limitations on accuracy of interpretation.

**IDENTIFICATION OF
POTENTIAL SITES**

SITE VICINITY FACTOR #4

Factor Groupings
Land Use, Planning and Land Ownership
Factors
Future Residential Uses

DEFINITION OF FACTOR:

Lands designated in official plans for residential uses but currently vacant, and lands for which application has been made for planning approval of development including official plan amendments, draft plans of subdivision, and rezoning applications, which are pending with the relevant area municipality or regional municipality, or are awaiting approval or decision by the Minister of Municipal Affairs and Housing or the Ontario Municipal Board.

RATIONALE/SIGNIFICANCE:

Proposals for future residential development will generally be in proximity to existing residential uses. The location of an industrial facility in an area with potential for residential development is undesirable.

SOURCES OF INFORMATION:

Regional Municipality	-	Planning staff reports and comments
	-	Official Plans
Area Municipality	-	Planning staff reports and comments
	-	Official Plans

Site Investigation

INTERPRETATION/METHODOLOGY:

Lands subject to residential development applications were determined by review of development application status reports of regional and area municipality planning staff and discussions with staff. In some instances, the status of applications was reviewed with staff of the Ministry of Municipal Affairs and Housing.

Development proposals were plotted on 1:10 000 base maps of site areas and vicinity.

CRITERIA/INDICATORS:

Listing by a regional or area municipality planning staff of an application for planning approval of a residential development.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF
POTENTIAL SITES**

SITE VICINITY FACTOR #3

Factor Groupings

Land Use, Planning and Land Ownership

Factors

Existing Commercial Uses

DEFINITION OF FACTOR:

Existing commercial uses in the vicinity of site areas.

RATIONALE/SIGNIFICANCE:

Commercial activities represent a constraint to development because of the temporary population, both employee and customer, which it attracts. Commercial uses are also sensitive to noise and odours related to plant operation and truck traffic.

SOURCES OF INFORMATION:

Aerial Photography - 1982 and 1983 (Scale 1:50 000)

Aerial Photography - 1978 (Scale 1:10 000)

Site Investigation

Area Municipalities - Existing Land Use Mapping
- Property Mapping

INTERPRETATION/METHODOLOGY

Existing commercial uses were identified by aerial photography interpretation and site investigation, and confirmed with municipal data where available.

CRITERIA/INDICATORS:

The following criteria were utilised:

- Commercial buildings
- Commercial uses of land, including landscaping, storage, parking

COMMENTS/ASSUMPTIONS/LIMITATIONS:

The scale and date of aerial photography were limitations on accuracy of interpretation.

**IDENTIFICATION OF
POTENTIAL SITES**

SITE VICINITY FACTOR #6

Factor Groupings

Land Use, Planning and Land Ownership

Factor:

Future Commercial Uses

DEFINITION OF FACTOR:

Lands designated in official plans for commercial uses but currently vacant, and lands for which application has been made for planning approval of development including official plan amendments, draft plans of subdivision, and rezoning applications, which are pending with the relevant area municipality or regional municipality, or are awaiting approval or decision by the Minister of Municipal Affairs and Housing or the Ontario Municipal Board.

RATIONALE/SIGNIFICANCE:

Proposals for future commercial development may be in the vicinity of a market population. The potential closure of small businesses is a concern.

SOURCES OF INFORMATION:

Regional Municipality - Planning staff reports

Area Municipality - Planning staff reports

Site Investigation

INTERPRETATION/METHODOLOGY:

Lands subject to commercial development applications were determined by review of development application status reports of regional and area municipality planning staff and discussions with staff. In some instances, the status of applications was reviewed with staff of the Ministry of Municipal Affairs and Housing.

Development proposals were plotted on 1:10 000 base maps of site areas and vicinity.

CRITERIA/INDICATORS:

Listing by a regional or area municipality planning staff of an application for planning approval of a commercial development.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF
POTENTIAL SITES**

SITE VICINITY FACTOR #7

Factor Groupings:

Land Use, Planning and Land Ownership

Factor:

Rural/Agricultural Land Use Designations

DEFINITION OF FACTOR:

Rural and/or Agricultural designations in area municipality Official Plans which refer to non-urban lands, whether currently in agricultural or other rural use.

RATIONALE/SIGNIFICANCE:

The majority of area municipality official plans utilize the terms "rural" and "agricultural" interchangeably to refer to all those lands not designated for urban uses. This indicator identifies lands designated for the continuation of rural/agricultural uses, regardless of the significance of the lands from an agricultural perspective. It is noted, however, that the degree of constraint will vary depending on the permitted land uses within each designation. In some cases, the agricultural designation refers to prime agricultural lands (a high constraint) while rural refers to the balance of the lands (somewhat lesser constraint).

SOURCES OF INFORMATION:

Area Municipalities Official Plans

Regional Municipalities Official Plans

INTERPRETATION/METHODOLOGY:

In most official plans, the rural and agricultural designations represent virtually the same land use opportunities. The incidence of these designations was plotted on 1:10000 scale base mapping of the potential site areas.

CRITERIA/INDICATORS:

Incidence of rural and agricultural land use designations in area and regional municipality official plans. Where distinction is made between prime and non-prime agricultural lands in the designations, the relative degree of constraint is noted.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Some rural designations apply to non-prime agricultural lands.

**IDENTIFICATION OF
POTENTIAL SITES**

SITE VICINITY FACTOR #3

Factor Groupings

Land Use, Planning and Land Ownership

Factors

Proximity to Residential Communities

DEFINITION OF FACTOR:

Residential communities, comprising a minimum of 15 or more residences within a 500 m radius circle, which are beyond the 400 m boundary of the site vicinity.

RATIONALE/SIGNIFICANCE:

The existence of established residential communities which are within the potential impact area of OWMC facilities yet beyond the identified buffer zone for these facilities should be recognized as a limiting factor due to the inherent risks to population concentrations.

SOURCES OF INFORMATION:

Regional Municipalities	-	Official Plans
Area Municipalities	-	Official Plans
	-	Existing Land Use Mapping
Aerial Photography	-	1983 and 1983 (Scale 1:30 000)

INTERPRETATION/METHODOLOGY:

Existing residential communities containing a minimum of 15 residents within a circle with 500 m radius and lying within 2 km of a candidate site area, were mapped on 1:50 000 scale mapping from field surveys, official plan land use maps and aerial photographs.

CRITERIA/INDICATORS:

As above

COMMENTS/ASSUMPTIONS/LIMITATIONS:

The minimum criterion of 15 dwellings was determined from aerial photography and existing land use plans and may require confirmation in the field.

APPENDIX G

IDENTIFICATION OF POTENTIAL SITES

INITIAL SITE AREA SCREENING

IDENTIFICATION OF POTENTIAL SITES

INITIAL SITE AREA SCREENING

Site Area	Location	Reasons For Site Area Screening
LF-16C	Township of West Lincoln adjacent to Township of Glanbrook boundary, about 3 km northwest of Abingdon on Bismarck Road.	- o significant clusters of residences located to south of site area (+15) and along West Lincoln-Glanbrook boundary (+35). - o designated Rural and some Hazard lands in Official Plan.
LF-28C	Township of West Lincoln adjacent to Township of Glanbrook boundary, about 2 km west of Abingdon on Bismarck Road.	- o significant clusters of residences along West Lincoln-Glanbrook boundary (+35). - o designated Rural and some Hazard lands in Official Plan.
PI-4W	East part of Town of Ancaster adjacent to Renforth, 1 km south of Southcote and 3 km west of Mount Hope.	- o significant residential clusters to east in Renforth (16) and to north in Southcote (26). - o designated Agricultural in Official Plan.
PI-18C	Township of West Lincoln, about 2 km west of Abingdon and 3 km north of Caistorville.	- o significant residential clusters in site vicinity, including +45 residences to north of site area. - o designated Rural in Official Plan.
PI-25E	City of Niagara Falls, about 5 km south of built-up area, 3 km southwest of Chippawa.	- o significant residential clusters to east along Sodom Road. - o designated Good General - Agricultural in Official Plan.

APPENDIX H

**IDENTIFICATION OF POTENTIAL SITES -
RANKING OF SITE AREAS**

IDENTIFICATION OF POTENTIAL SITES -
RANKING OF SITE AREAS

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
LP-1A1	- o future and planned industrial uses in site area and site vicinity. - o small number of residences on and in vicinity of site area.		o proposed future Residential designation in site vicinity.	1
LP-2A1	o small number of residences on and in vicinity of site areas.	o Rural designation	o proposed Residential designation to south.	3
LP-1N	o small number of residences on and in vicinity of site area.	o Agricultural designation		2
LP-2N	- o proposed future industrial uses (medium to heavy) on eastern portion of site area. - o small number of residences in site area.	o some residences and commercial uses in site vicinity.		1
LP-3N	- o proposed future industrial uses (medium to heavy) in site area. - o small number of residences on or in vicinity of site area.			1

Site Area	Low	Moderate	High	Ranking
LF-4N		- o Agricultural designation - o small residential cluster to southwest in site vicinity - o some residences in site area.		2
LF-2W	o small number of residences in site area	- o Agricultural designation - o some residential and commercial uses in Empire Corners in site vicinity.	o residential/community designation (hamlet of Empire Corners) in site vicinity	3
LF-3W		- o Agricultural designation - o proposed Rural designation - o some residences in site area.	o substantial number of residences in site vicinity to northeast (35+)	3
LF-4W		o proposed Rural designation on southern portion of site area.	- o close proximity to community and major residential concentrations in Binbrook. - o proposed "Urban Settlement" designation on northern portion of site area.	3

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
LP-5W	o small number of residences in site area	o Rural designation o scattered residential development in site vicinity.		2
LP-7W		o Rural designation o some residences in site area and site vicinity.	o close proximity to community and major residential concentrations in Binbrook.	3
LP-10W	o existing compatible use (Hydro transformer station) in site vicinity o small number of residences in site area.	o Rural Agricultural designation o some residences in site vicinity.		1
LP-11W	o small number of residences in site area. o existing compatible use (hydro transformer station) in site vicinity.	o Agricultural designation o some scattered residential development in site vicinity.		2
LP-13W	o small number of residences on or in vicinity of site area.	o Agricultural designation	o proximity to residential and commercial development in hamlet of York.	3

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
LP-14W	o small number of residences on or vicinity of site area.	o Rural designation		2
LP-1C	o substantial portion of site area publicly owned. o existing compatible industrial uses and railway marshall yard in site vicinity. o proposed future industrial uses (medium to heavy) on portion of site area.	o Rural designation on part of site area and site vicinity	o substantial number of residences to north (30+) in site vicinity, and to south.	1
LP-2C	o small number of residences on or in vicinity of site area.	o Rural designation	o close proximity to community and major residential concentration in Village of Wainfleet o "Village Residential" designation abuts site vicinity.	3
LP-3C	o small number of residences on or in vicinity of site area.	o Rural designation		2

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
LF-9C	o small number of residences in site area.	- o Rural designation - o some residences in site vicinity.	o residential community designation and future residential development in hamlet of Boyle in site vicinity.	2
LF-9C	o small number of residences on or in vicinity of site area.	o Rural designation		2
LF-12C	o small number of residences in site area.	- o Rural designation - o scattered residential development in site vicinity (15+)		2
LF-13C		- o Rural designation - o proximity to small residential cluster (+ 15 residences) at Calster Centre.	o substantial number of residences on site and in site vicinity.	3

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
LF-15C		- o Rural designation - o proximity to small residential and commercial clusters in hamlet of Perry (15+ residences) to south and Beckett's Bridge (15+ residences) to northeast. - o several commercial uses in site area. - o Rural designation	o substantial number of residences in site area.	3
LF-18C	- o small number of residences on or in vicinity of site area. - o single commercial use in site area. - o existing industrial use (meat processing plant) in site vicinity.		o proximity to community and major residential concentration in Village of Wellandport to south-east.	3
LF-24C	o small number of residences on or in vicinity of site area.	o Rural designation		2
LF-25C	- o small number of residences in site area. - o single commercial use in site vicinity.	- o Rural designation - o scattered residential development in site vicinity (20+ residences)		2

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
LF-26C	o small number of residences on or in vicinity of site area.	o Rural designation		2
LF-30C	o small number of residences on or vicinity of site area.	o Rural designation		2
LF-1E		o Good General - Agricultural designation		2
		o some residences within site area and site vicinity (15+).		
LF-2E	o substantial publicly owned lands in site area.	o Good General - Agricultural and Open Spaces designations on site.		1
	o small number of residences in site area.			
	o future and planned industrial uses (medium to heavy) in site vicinity to north and south.	o some residences within site area and site vicinity.		

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
LF-3E	- o proposed future industrial uses to north in site vicinity. - o small number of residences in site area.	- o Good General - Agricultural and Open Space designations on site. - o some residences in site vicinity.		1
LF-4E	o small number of residences in site area.	- o Good General - Agricultural designation - o some scattered residences in site vicinity.		2
LF-4E	- o some publicly owned lands in site area. - o existing compatible (heavy) industrial uses on site and in site vicinity. - o planned heavy industrial uses on majority of site (designated Heavy Industrial).	- o Rural designation on portion of site area. - o some residences (15) within site area. - o proximity to small residential clusters to north and northeast.		1

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
LP-7E	- o some publicly owned lands in site area. - o single major industrial use on site - o existing compatible industrial uses in site vicinity. - o small number of residences in site area.	o planned light industrial uses on west half of site area (designated Light Industrial).	o proximity to communities and major residential concentrations to north (City of Welland) and south (Dain City).	3
LP-8E	- o some publicly owned lands in site area. - o existing compatible industrial uses in site vicinity. - o small number of residences in site area.	o several moderately sized commercial uses in site area and site vicinity.	o proximity to communities and major residential concentrations to north-east (City of Welland) and southeast (Dain City).	3
LP-9E	- o small number of residences in site area. - o small number of commercial uses in association with residences on or in vicinity of site area.	- o Good General - Agricultural and Rural designations. - o some residences in site area and site vicinity.		2
LP-10E		- o Good General - Agricultural designation - o several moderately sized commercial uses on site area and site vicinity.		2

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
LF-12E	o small number of commercial uses in association with residences in site area.	- o some scattered residences in site area and site vicinity. - o Good General - Agricultural designation - o some residences in site area (15).	o substantial number of residences in site vicinity (25+).	3
PI-1A1	- o future and planned industrial uses in site area and site vicinity. - o small number of residences on and in vicinity of site area.		o proposed future Residential designation in site vicinity.	1
PI-2A1	o future and planned industrial uses in site area.		o existing and future estate residential development to southeast in site vicinity.	2
PI-3A1	o small number of residences in site area	- o some residences in site vicinity - o Rural designation	o proposed future Residential designation to northwest.	3
PI-1H	o small number of residences in site area.	- o Agricultural designation - o some residences in site vicinity.	o proposed future Residential designation to south.	2

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
PI-2N	o small number of residences in site area.	- o Agricultural designation - o some residences in site vicinity.		2
PI-3N	o small number of residences in site area.	- o Special Policy Area designation - land use uncertain. - o some existing residential and commercial uses in site vicinity.		2
PI-4N	- o proposed future industrial uses (medium to heavy) in site area. - o small number of residences in site area.	o some existing residential and commercial uses in site vicinity.		1
PI-5N	- o proposed future industrial uses in site area. - o small number of residences on or in vicinity of site area. - o future and planned (serviced) industrial uses to east in site vicinity.			1

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
PI-0N	- o proposed future industrial uses in site area. - o small number of residences on or in vicinity of site area.	o some commercial uses in site vicinity.		1
PI-10N	o small number of residences in site area.	- o Parkway Belt designation, permitting agricultural uses. - o proximity to small residential cluster (hamlet of Omagh) in site vicinity.		2
PI-11N	o small number of residences in site area.	o Agricultural and Parkway Belt designations, permitting agricultural uses.		2
PI-12N		- o proximity to small residential cluster (hamlet of Omagh) in site vicinity. - o Agricultural and Parkway Belt designations, permitting agricultural uses. - o some residences in site vicinity.		2

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
PF-13N	- o majority of site area is publicly owned. - o small number of residences in site area.	- o Agricultural designation - o some residences in site vicinity, including small clusters to north.		2
PF-14N	- o majority of site area is publicly owned. - o small number of residences in site area.	- o Agricultural designation - o some residences in site vicinity.		2
PF-15N	o small number of residences in site area.	- o Parkway Belt designation, permitting agricultural uses. - o proximity to small residential cluster (hamlet of Omagh) in site vicinity.	o proximity to community and major residential concentration in Town of Milton.	3
PF-2W	- o future and planned industrial uses on majority of site area. - o small number of residences in site area. - o some publicly owned lands.	o some residential and commercial uses in hamlet of Duff's Corners to north and east.		1

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
PT-1C	- o future and planned industrial uses on majority of site area. - o no residences in site area. - o majority of site area is publicly owned. - o existing compatible medium and heavy industrial uses to south. - o small number of residences in site area.	- o Rural designation on northern part of site area. - o some residences in site vicinity.	o close proximity to community and major residential concentration in Town of Smithville.	3
PT-2C		o Rural designation	- o substantial number of residences in site vicinity. - o proximity to residential cluster in hamlet of Calator Centre in site vicinity.	3
PT-11C	o single commercial use in site area	- o Rural designation - o small residential cluster in site area	o significant strip residential development through middle of site area and to west in site vicinity.	3
PT-15C	o small number of residences on or in vicinity of site area	o Rural designation	o proximity to community and major residential concentration in village of Wainfleet	3

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
PI-19C	o small number of residences on or in vicinity of site area	o Agricultural designation	o close proximity to residential cluster in hamlet of Abingdon.	3
PI-21C	o small number of residences on or in vicinity of site area	o Rural designation		2
PI-22C	o small number of residences in site area	o Rural designation	o close proximity to community and major residential concentration in town of Smithville o substantial number of residences in site vicinity	3
PI-25C	o small number of residences on or in vicinity of site areas o single commercial use in site area o existing industrial use (meat processing plant) in site vicinity	o Rural designation	o proximity to community and major residential concentration in village of Wellandport to southeast	3
PI-26C		o Rural designation o some residences in site vicinity		2
PI-1E	o future and planned industrial uses in site area o small number of residences in site area		o substantial number of residences in site vicinity o proximity to community and major residential concentration	2

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
	- o existing compatible industrial uses in site area and site vicinity - o substantially publicly owned		in the City of Niagara Falls	
PI-2E	- o future and planned industrial uses in site area - o no residences in site area - o existing compatible industrial uses in site vicinity	o residential cluster in site vicinity to west	o proximity to community and major residential concentration in the City of Niagara Falls	2
PI-3E	- o future and planned industrial uses in site area - o small number of residences in site area - o existing compatible industrial uses in site area and site vicinity		- o substantial number of residences in site vicinity - o proximity to community and major residential concentration in the City of Niagara Falls	2
PI-4E	- o future and planned industrial uses in site area - o small number of residences in site area - o existing compatible heavy industrial uses immediately west of site area			1

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
PI-5E	- o existing compatible Heavy Industrial zoning - o future and planned industrial uses in site area and site vicinity - o existing heavy industrial uses within site area and site vicinity - o small number of residences in site area	o Rural designation	o proximity to community and major residential concentration in village of Port Robinson	2
PI-6E	o proposed future industrial uses to north of site vicinity	- o Good General - Agricultural and Open Space designations on site - o some residences in site area and site vicinity		2
PI-7E	o no residences in site area, small number in site vicinity	- o Good General - Agricultural designation - o proximity to small residential cluster in hamlet of Cook's Mills to southwest		2
PI-8E	o small number of residences on or in vicinity of site area	- o Rural and Agricultural designation - o some moderately sized commercial uses on site and site vicinity		2

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
PT-9E	o small number of residences in site area	o Good General - Agricultural	o substantial number of residences in site vicinity	2
PT-10E		- o Good General - Agricultural designation (Niagara Falls) on part of site area - o close proximity to residential cluster in hamlet of Snyder - o some residential development on and in vicinity of site area	o Rural and Village Community designations (Fort Erie) in site area	3
PT-11E	- o future and planned industrial uses in southern portion of site area - o existing compatible industrial uses in site vicinity - o small number of residences in site area	- o predominantly Rural and Open Space designations - o some residences in site vicinity - o proximity to small residential cluster in hamlet of Snyder	o close proximity to community and major residential concentration in village of Stebensville	3
PT-12E	o small number of residences on or in vicinity of site area	- o Rural and Open Space designations - o proximity (1-2 km) to community and major residential concentration in village of Stebensville		2

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
PI-13E	o small number of residences in site area and site vicinity	o Rural designation		
PI-14E	o small number of residences in site area o existing compatible industrial uses in site vicinity	o Rural designation	o substantial number of residences in site vicinity	2
PI-15E	o small number of residences in site area and site vicinity	o Rural designation	o proximity to major community and residential concentration in village of Stevensville.	2
PI-16E	o few residences in site area.	o Rural designation o some residences in site vicinity	o proximity to community and major residential concentration in village of Stevensville	2
PI-17E	o future and planned heavy industrial uses in site vicinity o existing compatible industrial uses in site vicinity o small number of residences and commercial uses in site area and site vicinity respectively	o Rural designation o future and proposed light industrial uses in site vicinity o some residences in site vicinity		1
PI-18E	o future and planned heavy industrial uses in site area	o Rural designation on part of site area		1

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
	- o existing compatible industrial uses in site area and site vicinity - o small number of residences in site area and site vicinity	o proximity to residential clusters to north and northeast		
FI-19E	- o small number of residences in site vicinity - o existing compatible heavy industrial uses to north beyond site vicinity	- o Agricultural designation - o some residences in site area		2
FI-20E	- o small number of residences in site area - o existing compatible industrial uses in site area	- o Agricultural designation with Light Industrial designation on small part - o some residences in site vicinity		2
FI-21E	- o small number of residences in site area - o proposed future industrial use (Deferred Industrial - Port Colborne) in site area - o planned and future industrial uses in site vicinity to north and south - o substantially publicly owned	- o Good General - Agricultural and Open Space designations in site area - o some residences in site vicinity		1

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
PI-26E		- o Good General - Agricultural designation - o some residences in site area site vicinity		2
PI-27E	- o future proposed industrial use in site area and to north in site vicinity - o existing compatible heavy industrial uses to north of site area - o small number of residences in site area	o existing light industrial use in site area		1
PI-30E		- o some scattered residences in site area and site vicinity. - o Good General - Agricultural designation - o several moderately-sized commercial uses in site area and site vicinity - o proximity (1-2 km) to community and major residential concentration in village of Port Robinson		2

Significant Land Use Constraints

Site Area	Low	Moderate	High	Ranking
PT-31E		- o Rural designation - o some residences in site area and site vicinity - o proximity to residential cluster in hamlet of Snyder	o proximity to community and major residential concentration in village of Stevensville	3
PT-34E	- o small number of residences in site area - o existing compatible industrial uses in site vicinity	- o planned future light industrial uses in west portion of site area - o several commercial uses in site area and site vicinity	o proximity to community and major residential concentrations in City of Welland to north, and Dain City to south	3
PT-37E	o some publicly owned lands in site area.	- o Good General - Agricultural designation - o some residences in site area	o substantial number of residences in site vicinity	3

APPENDIX I

IDENTIFICATION OF CANDIDATE SITES FACTORS



**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE FACTOR #1
Factor Grouping:
Human Environment
Factor:
Existing Commercial and Industrial Uses
Indicator:
Industrial Facilities

DEFINITION OF INDICATOR:

The number and type of existing light, medium and heavy industrial uses within site areas. Industrial uses are generally characterized by noise, some airborne emissions, and rail and truck traffic.

RATIONALE/SIGNIFICANCE:

The location of industrial areas is generally separated from residential areas. Most have good road access.

The OWMC facilities, except for the landfill, are essentially industrial in character.

Generally, the more industrialized the character of the site, the less likelihood of land use conflict and adverse social and economic impact. Much depends on the character of the industry.

If an industry is to be displaced by an OWMC facility, the re-establishment of the use will be an important consideration in minimizing impact on employment and the municipal tax base.

SOURCES OF INFORMATION:

Site Investigations
Aerial Photography - 1978, Scale 1:10 000

INTERPRETATION/METHODOLOGY:

The impact of existing industrial uses is highly dependent upon the nature of the use, e.g. heavy vs. light industry, worker population, obsolescence and redevelopment opportunities. Siting opportunities occur primarily in terms of replacement of obsolete or low intensity uses and will be feasible only if a single large property is available. It may represent either a constraint or a site location opportunity depending on the present use.

The locations of industrial uses were plotted on 1:10 000 scale maps.

CRITERIA/INDICATORS:

Incidence of industrial facilities.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE FACTOR #2
Factor Grouping:
 Human Environment
Factor:
 Future Commercial and Industrial Uses
Indicator:
 Planned and Proposed Industrial Facilities

DEFINITION OF INDICATOR:

Planned and proposed industrial uses which are generally characterized by noise, some airborne emissions, and rail and truck traffic.

RATIONALE/SIGNIFICANCE:

Planned and proposed industrial uses represent potential uses of the site which may have a substantial degree of compatibility with OWMC facilities. Planned and proposed industrial uses will generally be located away from residential uses. Plans and proposals for future industrial uses serve as an indicator of the industrial potential of an area. Industrial designation in an official plan may represent a siting opportunity.

SOURCES OF INFORMATION:

Area Municipality Planning Staff	-	Development Control Plans, Reports and Comments
Regional Municipality Planning Staff	-	Development Control Plans, Reports and Comments
Site Investigations	-	Billboards and notice of application signs

INTERPRETATION/METHODOLOGY:

This indicator represents a moderate constraint, as mitigation is more likely with future development.

Development proposals were plotted on 1:10 000 scale base maps of the sites.

CRITERIA/INDICATORS:

Industrial development applications, submitted to the area or regional municipality, Ministry of Municipal Affairs and Housing, or before the Ontario Municipal Board, which are pending approval.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Records of Committees of Adjustment and Land Division Committees were not examined at this stage. Reliance was placed on information regarding consents obtained from planning staffs. Committee records will be reviewed in Phase 4.

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE FACTOR #3
Factor Groupings
Human Environment
Factor:
Existing Residents
Indicator:
Number of Residences Displaced

DEFINITION OF INDICATOR:

The number of residences displaced is the number of housing units, both farm and non-farm, which would be displaced by a facility.

RATIONALE/SIGNIFICANCE:

The number of residences displaced is the most easily measured indicator of the amount of personal dislocation to be anticipated in the selection of any site. It is also an indicator of the potential cost and difficulty of site assembly.

SOURCES OF INFORMATION:

Site Investigations
Aerial Photography - 1978, Scale 1:10 000

INTERPRETATION/METHODOLOGY:

The impact caused by the removal of residences and displacement of their occupants is of the highest order of public and policy concern.

The locations of housing units were plotted on 1:10 000 scale base maps of the sites.

CRITERIA/INDICATORS:

The location of residences and farm residences.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE FACTOR #4
Factor Groupings:
Human Environment
Factor:
Future Residents
Indicator:
Projected Population Levels

DEFINITION OF INDICATOR:

An estimate of projected population levels expressed in terms of persons or housing units, as set out in the land use plan or policies of the area municipality Official Plan or secondary plan.

RATIONALE/SIGNIFICANCE:

OWMC facilities are industrial in nature and as such are characterized by noise and rail and truck traffic. Such facilities are generally not compatible with populated residential areas.

SOURCES OF INFORMATION:

Area Municipality Official Plans
Area Municipality Secondary Plans
Area Municipality Planning Staff Reports

INTERPRETATION/METHODOLOGY:

The number of future residents is a major policy and public concern, and an important constraint. Depending on the term of the projections and pre-development investment by the private sector in anticipation of the realization of these projections, there may be leeway for mitigation.

Population projections are included in the report where relevant.

CRITERIA/INDICATORS:

Population projections or targets in area municipality Official Plans or Secondary Plans.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

No sites have been located within settlement areas for which population projections have been set out in Official Plans.

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE FACTOR #4

Factor Groupings:
Human Environment

Factors:
Future Residents

Indicator:

Approved Residential Plans of Subdivision

DEFINITION OF INDICATOR:

Plans for residential subdivisions that have municipal and provincial approval and that may be built at some point in the future.

RATIONALE/SIGNIFICANCE:

OWMC facilities are not compatible with residential built-up areas. Approved plans indicate a high degree of commitment for development.

SOURCES OF INFORMATION:

Area Municipality Planning Staffs
Regional Municipality Planning Staffs

INTERPRETATION/METHODOLOGY:

Approved residential plans of subdivision would represent a very severe constraint.

The location of approved plans of subdivision were plotted on 1:10 000 scale maps of the sites.

CRITERIA/INDICATORS:

Residential draft plans of subdivision, approved by the Ministry of Municipal Affairs and Housing or, where approval power has been delegated to the regional municipality, and with the approval still in effect, registered residential plans of subdivision.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

No approved residential plans of subdivision were found within the sites.

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE FACTOR #4
Factor Grouping:
Human Environment
Factor:
Future Residents
Indicator:
Residential Land Use Designation

DEFINITION OF INDICATOR:

Lands which have been approved in area municipality Official Plans for residential uses, and also in conformity with regional Official Plans (where in effect) which may or may not be presently developed. In some cases lands have been approved by municipal Official Plans for future residential uses, but are at present vacant.

RATIONALE/SIGNIFICANCE:

Residential uses would not generally be considered compatible with industrial uses. Use of these areas may involve moving existing residences.

Residential designations do not usually permit industrial uses.

SOURCES OF INFORMATION:

Area Municipality Official Plans
Regional Official Plans

INTERPRETATION/METHODOLOGY:

Residential designation in an Official Plan may be a major constraint but is not necessarily an exclusionary indicator.

The locations of residential designations were plotted on 1:10 000 scale maps of the sites.

CRITERIA/INDICATORS:

Incidence of residential or similar designation, e.g. hamlet, estate residential, etc., in area municipality Official Plans.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE FACTOR #4
Factor Grouping:
Human Environment
Factor:
Future Residents
Indicator:
Residential Zoning

DEFINITION OF INDICATOR:

Lands that have been zoned for residential uses by municipal zoning by-laws.

RATIONALE/SIGNIFICANCE:

Lands zoned residential do not normally allow industrial development. Lands zoned residential may indicate a strong commitment for future residential development but, more commonly, reflect existing residential development, which is frequently a single residence or small group of residences.

SOURCES OF INFORMATION:

Area Municipality Zoning By-Laws

INTERPRETATION/METHODOLOGY:

The impact of residential zoning as a constraint will vary depending on the number of residential units permitted under the zoning.

The locations of residentially-zoned properties were plotted on 1:10 000 scale maps of the sites.

CRITERIA/INDICATORS:

Residential or similar zoning in area municipality zoning by-laws.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**
SITE FACTOR #4

Factor Groupings
Human Environment
Factors
Future Residents
Indicators
Residential Development Proposals

DEFINITION OF INDICATOR:

Applications for planning approval of development including Official Plan amendments, draft plans of subdivision, rezoning applications which are pending with the relevant area municipality, regional municipality, or are awaiting approval or decision by the Minister of Municipal Affairs and Housing or the Ontario Municipal Board.

RATIONALE/SIGNIFICANCE:

Any proposals for future residential development will generally be in proximity to existing residential uses. The location of an industrial facility in an area with potential for residential development is generally undesirable.

SOURCES OF INFORMATION:

Area Municipality Planning Staff	-	Development Control Plans, Reports and Comments
Regional Municipality Planning Staff	-	Development Control Plans, Reports and Comments
Site Investigations	-	Billboards and notice of application signs

INTERPRETATION/METHODOLOGY:

The impact of development proposals will vary according to their size and likelihood of approval.

Development proposals were plotted on 1:10 000 scale base maps.

CRITERIA/INDICATORS:

Residential development applications, submitted to the area or regional municipality, Ministry of Municipal Affairs and Housing, or before the Ontario Municipal Board, which are pending approval.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Records of Committees of Adjustment and Land Division Committees were not examined at this stage; these records will be reviewed in Phase 4.

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE FACTOR #1
Factor Groupings
Human Environment
Factors
Existing Commercial and Industrial Uses
Indicators
Commercial Facilities

DEFINITION OF INDICATOR:

The number and type of existing commercial uses including shopping centres, stores, offices, personal service uses, etc.

RATIONALE/SIGNIFICANCE:

Most commercial uses would not generally be considered compatible with heavy industrial facilities. The potential closure of small businesses is a concern. Capital investment in commercial facilities is generally intensive. Such uses may be very resistant to relocation and therefore re-establishment of the uses would be a major policy concern.

SOURCES OF INFORMATION:

Site Investigations
Aerial Photography - 1978, Scale 1:10 000

INTERPRETATION/METHODOLOGY:

The impact on existing commercial uses is highly dependent upon the nature of the use. Most commercial uses have been eliminated at this stage by constraint mapping.

The locations of lands under commercial use were plotted on 1:10 000 scale maps of the sites.

CRITERIA/INDICATORS:

Incidence of commercial uses.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE FACTOR #2

Factor Grouping:
Human Environment
Factor:
Future Commercial and Industrial Uses
Indicator:
Planned and Proposed Commercial Facilities

DEFINITION OF INDICATOR:

Planned and proposed commercial facilities including shopping centres, offices and personal services.

RATIONALE/SIGNIFICANCE:

Most commercial activities would not generally be considered compatible with heavy industrial activities. Private investment may have been committed for development of such uses on the basis of official plan designations.

SOURCES OF INFORMATION:

Area Municipality Planning Staff	-	Development Control Plans, Reports and Comments
Regional Municipality Planning Staff	-	Development Control Plans, Reports and Comments
Site Investigations	-	Billboards and notice of application signs

INTERPRETATION/METHODOLOGY:

This indicator represents a moderate constraint, as mitigation is more likely with future development.

Development proposals were plotted on 1:10 000 scale base maps of the sites.

CRITERIA/INDICATORS:

Commercial development applications, submitted to the area or regional municipality, Ministry of Municipal Affairs and Housing, or before the Ontario Municipal Board, which are pending approval.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Records of Committees of Adjustment and Land Division Committees were not examined at this stage, these records will be reviewed in Phase 4.

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE FACTOR 88
Factor Groupings
Human Environment
Factor:
Future Resources
Indicators
Provincial Planning Areas

DEFINITION OF INDICATOR:

Lands designated within the Parkway Belt Planning Area and the Niagara Escarpment Planning Area.

RATIONALE/SIGNIFICANCE:

Provincial policy documents such as the above are significant to specific candidate sites. The Parkway Belt Plan restricts uses to those compatible with the Parkway Belt, i.e., agricultural and recreational uses, transportation, utility and pipeline corridors and other acceptable uses. The Niagara Escarpment (N.E.C.) Plan controls are aimed at preserving the natural character of the Escarpment and its adjacent scenic areas and its provisions would prohibit OWM type facilities.

Both the Parkway Belt and N.E.C. Plan are recognized as land use categories in the Halton Regional Official Plan and in Area Municipality Official Plans.

SOURCES OF INFORMATION:

Parkway Belt West Plan, June 1978, as amended, and the Niagara Escarpment Plan as approved in 1984.

Discussions with Provincial Planning Staff.

INTERPRETATION/METHODOLOGY:

Non-conformity with these provincial policies present possible siting constraints.

The incidence of this factor was plotted on 1:50000 scale base mapping.

CRITERIA/INDICATORS:

Incidence of conformity with the above planning documents.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

The Parkway Belt West Plan is under review and may be modified.

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE AREA FACTOR #4

Factor Groupings:
Land Use, Planning and Land Ownership
Factors:
Rural/Agricultural Land Use Designation

DEFINITION OF FACTOR:

Rural and/or Agricultural designations in area municipality official plans which refer to non-urban lands, whether currently in agricultural or other rural use.

RATIONALE/SIGNIFICANCE:

Official plan designations in the site areas are an indication of the community's intentions in the short to medium term future for agricultural land use. The majority of area municipality official plans utilize the terms "rural" and "agricultural" interchangeably to refer to all those lands not designated for urban uses. The degree of constraint will vary depending on the permitted land uses within each designation. In some cases, the agricultural designation refers to prime agricultural lands (a high constraint) while rural refers to the balance of the lands (somewhat lesser constraint). The agricultural designation is generally intended to conserve agricultural resources.

SOURCES OF INFORMATION:

Area Municipalities Official Plans
Regional Municipalities Official Plans

INTERPRETATION/METHODOLOGY:

In most official plans, the rural and agricultural designations represent virtually the same land use opportunities. The incidence of these designations was plotted on 1:10000 scale base mapping of the potential site areas.

CRITERIA/INDICATORS:

Incidence of rural and agricultural land use designations in area and regional municipality official plans. Where distinction is made between prime and non-prime agricultural lands in the designations, the relative degree of constraint is noted.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Some rural designations apply to non-prime agricultural lands.

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE FACTOR #7
Factor Groupings
Costs/Operations
Factors
Land Acquisition
Indicators
Land Value

DEFINITION OF INDICATOR:

Estimated land value for site lands. The estimated value takes into account recent sales of comparable properties, recorded in registry offices with appropriate adjustments.

RATIONALE/SIGNIFICANCE:

As a public agency responsible for the expenditure of public funds, it is a responsibility of OWMC to minimise expenditures where feasible.

Sites with lower land values would generally be received somewhat more favourably than sites with high land values, all other factors being equal.

SOURCES OF INFORMATION:

Site Appraisals
Registry Office Records of Sales
Ministry of Agriculture and Food, Analysis of Farmland Sales by Municipality
Realtor Listings

INTERPRETATION/METHODOLOGY:

Land value may range from high to low as a constraint, but should not be an exclusionary factor. Data on land values have been recorded in tabular form in the report.

CRITERIA/INDICATORS:

Value per hectare of site area and total value of site lands.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Investigation of land values was necessarily limited by the need to maintain confidentiality.

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE FACTOR #7
Factor Groupings
Costs/Operations
Factors
Land Acquisition
Indicators
Land Fragmentation

DEFINITION OF INDICATOR:

The measure of the degree of division of land into increasingly smaller property holdings. The degree of fragmentation can be measured by the average parcel size or the number of parcels per standard site area.

RATIONALE/SIGNIFICANCE:

The higher the degree of fragmentation of the site, the larger the number of owners with which OWMC will have to deal, and therefore the greater the impact on land owners and the greater the degree of difficulty in assembling the site.

SOURCES OF INFORMATION:

Registry Office Records
Regional and Area Municipality Assessment Offices
Planning Department Property Plans

INTERPRETATION/METHODOLOGY:

Difficulty of site assembly is potentially significant. Land ownership parcels were plotted on 1:10 000 scale base map of the sites.

CRITERIA/INDICATORS:

Property ownership boundaries.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE FACTOR #7
Factor Groupings
Costs/Operations
Factor:
Land Acquisition
Indicator:
Land Ownership

DEFINITION OF INDICATOR:

Land ownership and tenancy within sites.

RATIONALE/SIGNIFICANCE:

Location of an OWMC facility on publicly-owned land would involve less acquisition of land in private ownership.

SOURCES OF INFORMATION:

Registry Offices
Regional and Area Assessment Offices

INTERPRETATION/METHODOLOGY:

Public ownership of all or part of the site may facilitate acquisition and therefore represent a siting opportunity.

The property boundaries of all land parcels for all sites were mapped. Names, addresses and telephone numbers of all land owners and tenants were compiled.

CRITERIA/INDICATORS:

Ownership/tenancy of a parcel as recorded in registry and assessment offices.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Names, addresses and telephone numbers of owners may not be current due to the possibility of out of date data sources, particularly municipal assessment records.

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE VICINITY FACTOR #1

Factor Groupings
Human Environment
Factors
Existing Commercial and Industrial Uses
Indicators
Industrial Facilities

DEFINITION OF INDICATOR:

Existing industrial uses in the vicinity of the sites.

RATIONALE/SIGNIFICANCE:

The OWMC facilities are essentially industrial in character and will have a substantial degree of compatibility with many of the existing industrial areas, which are generally characterized by noise, some airborne emissions, and rail and truck traffic.

Built-up industrial areas contain a variety of industrial and related buildings and uses. The existence of industrial uses in the site vicinity may be compatible with an OWMC facility.

SOURCES OF INFORMATION:

Site Investigations
Aerial Photography - 1978, Scale 1:10 000

INTERPRETATION/METHODOLOGY:

The impact of existing industrial uses is highly dependent upon the nature of the use, i.e. heavy vs. light industry, worker population, obsolescence and redevelopment opportunities. It may represent either a constraint or a siting opportunity, depending on the nature of the use.

The locations of lands under industrial use were plotted on 1:10 000 scale maps.

CRITERIA/INDICATORS:

Incidence of industrial facilities.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE VICINITY FACTOR #3

Factor Groupings
Human Environment
Factor
Future Commercial and Industrial Uses
Indicator
Planned and Proposed Industrial Facilities

DEFINITION OF INDICATOR:

Planned and proposed industrial uses in the vicinity of the sites.

RATIONALE/SIGNIFICANCE:

Planned and proposed industrial uses will generally be located well-removed from residential uses. The OWMC facilities are essentially industrial in nature and as such may be suitably located in proximity to other industrial uses.

SOURCES OF INFORMATION:

Area Municipality Planning Staff	-	Development Control Plans, Reports and Comments
Regional Municipality Planning Staff	-	Development Control Plans, Reports and Comments
Site Investigations	-	Billboards and notice of application signs

INTERPRETATION/METHODOLOGY:

This indicator may represent a siting opportunity or moderate constraint depending on the nature of the proposed use, as mitigation is more likely with future development.

Development proposals were plotted on 1:10 000 scale base maps.

CRITERIA/INDICATORS:

Industrial development applications submitted to the area or regional municipality, Ministry of Municipal Affairs and Housing, or before the Ontario Municipal Board, which are pending approval.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Records of Committees of Adjustment and Land Division Committees were not examined at this stage. Reliance was placed on information regarding consents obtained from planning staffs. Committee records will be examined during Phase 4.

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE VICINITY FACTOR #3

Factor Groupings
Human Environment
Factors
Existing Residents
Indicator
Number of Residences

DEFINITION OF INDICATOR:

Existing residential uses in the vicinity of sites.

RATIONALE/SIGNIFICANCE:

The number of residences is the most easily measured indicator of the amount of residential exposure to be anticipated in the site vicinity in the event of the location of a facility nearby. Residents are sensitive to airborne emissions, noise, and increased truck traffic resulting from the location of industrial-type facilities in their vicinity.

SOURCES OF INFORMATION:

Site Investigation
Aerial Photography

- 1978, Scale 1:10 000

INTERPRETATION/METHODOLOGY:

A large number of existing residences in the site vicinity represents a major constraint and contributes to the potentially exclusionary nature of this factor.

The location of residences within the site vicinity was plotted on 1:10 000 scale maps.

CRITERIA/INDICATORS:

Incidence of housing units.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE VICINITY FACTOR #4

Factor Groupings:
Human Environment
Factors:
Future Residents
Indicators:
Projected Population Levels

DEFINITION OF INDICATOR:

Estimated potential population levels in the vicinity of sites as derived from examination of official plan policies, future land use designations and specific development proposals.

RATIONALE/SIGNIFICANCE:

OWMC facilities are industrial in nature and as such are characterized by noise, rail and truck traffic. Such facilities are generally not compatible with populated areas.

SOURCES OF INFORMATION:

Area Municipality Official Plans
Area Municipality Secondary Plans
Area Municipality Planning Staff Reports

INTERPRETATION/METHODOLOGY:

The number of future residents is a major policy and public concern, and an important constraint. Depending on the term of the projections and pre-development investment by the private sector in anticipation of the realization of these projects, there may be leeway for mitigation.

CRITERIA/INDICATORS:

Population projections or targets in area municipality Official Plans or Secondary Plans.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE VICINITY FACTOR #4

Factor Groupings:

Human Environment

Factor:

Future Residents

Indicator:

Approved Residential Plans of Subdivision

DEFINITION OF INDICATOR:

Plans for residential subdivisions that have municipal or provincial approval and that may be built at some point in the future.

RATIONALE/SIGNIFICANCE:

OWMC facilities are not compatible with residential built-up areas. Approved plans indicate a commitment for development.

SOURCES OF INFORMATION:

Area Municipality Planning Staff Reports and Comments

Regional Municipality Planning Staff Reports and Comments

INTERPRETATION/METHODOLOGY:

Approved residential plans of subdivision constitute a major constraint to facility location.

The location of approved plans of subdivision have been plotted on 1:10 000 scale base maps of the site vicinity.

CRITERIA/INDICATORS:

Residential draft plans of subdivision, approved by the Ministry of Municipal Affairs and Housing or, where approval power has been delegated to the regional municipality, and with the approval still in effect, registered residential plans of subdivision.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTOR**

SITE VICINITY FACTOR #4

Factor Groupings:
Human Environment
Factor:
Future Residents
Indicator:
Residential Land Use Designations

DEFINITION OF INDICATOR:

Lands which have been approved by municipal official plans for residential uses, which may or may not be presently developed.

RATIONALE/SIGNIFICANCE:

The OWMC facilities, except for the landfill, are essentially industrial in nature. Residential uses would not generally be considered compatible with industrial uses.

SOURCES OF INFORMATION:

Area Municipality Official Plans
Regional Official Plans

INTERPRETATION/METHODOLOGY:

Residential designation in an Official Plan may be a major constraint but is not necessarily an exclusionary indicator.

The locations of residential designations were plotted on 1:10 000 scale base maps of the site vicinity.

CRITERIA/INDICATORS:

Incidence of residential or similar designation, e.g. hamlet, estate residential, etc., in area municipality Official Plans.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE VICINITY FACTOR #4

Factor Groupings:
Human Environment
Factors:
Future Residents
Indicators:
Residential Zoning

DEFINITION OF INDICATOR:

Lands that have been zoned for residential uses by area municipality zoning by-laws.

RATIONALE/SIGNIFICANCE:

The OWMC facilities are essentially industrial in nature. Residential uses would not generally be considered compatible with industrial uses.

SOURCES OF INFORMATION:

Area Municipality Zoning By-Laws

INTERPRETATION/METHODOLOGY:

The impact of residential zoning as a constraint will vary depending on the number of residential units permitted under the zoning.

The locations of residentially-zoned properties were plotted on 1:10 000 scale base maps of the site vicinity.

CRITERIA/INDICATORS:

Residential or similar zoning in area municipality zoning by-laws.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE VICINITY FACTOR #4

Factor Grouping:
Human Environment
Factor:
Future Residents
Indicator:
Residential Development Proposals

DEFINITION OF INDICATOR:

Applications for planning approval of development including Official Plan amendments, draft plans of subdivision, rezoning applications, which are pending with the relevant area municipality, regional municipality, or are waiting approval or decision by the Minister of Municipal Affairs and Housing or the Ontario Municipal Board.

RATIONALE/SIGNIFICANCE:

Any proposals for future residential development will generally be in proximity to existing residential uses. The location of an industrial facility in an area with potential for residential development is undesirable.

SOURCES OF INFORMATION:

Area Municipality Planning Staff	-	Development Control Plans, Reports and Comments
Regional Municipality Planning Staff	-	Development Control Plans, Reports and Comments
Site Investigations	-	Billboards and notice of application signs

INTERPRETATION/METHODOLOGY:

The impact of development proposals will vary according to their size and likelihood of approval.

Development proposals were plotted on 1:10 000 scale base maps of the site vicinity.

CRITERIA/INDICATORS:

Residential development applications submitted to the area municipality, regional municipality, Ministry of Municipal Affairs and Housing, or before the Ontario Municipal Board, which are pending approval.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Records of Committees of Adjustment and Land Division Committees were not examined at this stage; these records will be reviewed in Phase 4.

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE VICINITY FACTOR #1

Factor Groupings:
Human Environment
Factor:
Existing Commercial and Industrial Uses
Indicator:
Commercial Facilities

DEFINITION OF INDICATOR:

Existing commercial uses in the site vicinity, including shopping centres, offices and personal service uses.

RATIONALE/SIGNIFICANCE:

Most commercial uses would not generally be considered compatible with heavy industrial facilities. The potential closure of small businesses is a concern. Capital investment in commercial facilities is generally intensive. Such uses may be very resistant to relocation.

SOURCES OF INFORMATION:

Site Investigations
Aerial Photography - 1976, Scale 1:10 000

INTERPRETATION/METHODOLOGY:

The impact on existing commercial uses is highly dependent on the nature of the use. Most commercial uses have been eliminated at this stage by constraint mapping.

The locations of lands under commercial use were plotted on 1:10 000 scale maps.

CRITERIA/INDICATORS:

Incidence of commercial uses.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE VICINITY FACTOR #3

Factor Groupings:
Human Environment
Factors:
Future Commercial and Industrial Uses
Indicators:
Planned and Proposed Commercial Facilities

DEFINITION OF INDICATOR:

Planned and proposed commercial facilities in the vicinity of candidate sites, including shopping centres, offices and personal service uses.

RATIONALE/SIGNIFICANCE:

These uses would not generally be considered compatible with OWMC facilities. Private investment may have been committed for development of such uses on the basis of Official Plan designations.

SOURCES OF INFORMATION:

Area Municipality Planning Staff	-	Development Control Plans, Reports and Comments
Regional Municipality Planning Staff	-	Development Control Plans, Reports and Comments
Site Investigations	-	Billboards and notice of application signs

INTERPRETATION/METHODOLOGY:

This indicator represents a moderate constraint as mitigation is more likely with future development.

Development proposals were plotted on 1:10 000 scale base maps of the site vicinity.

CRITERIA/INDICATORS:

Commercial development applications, submitted to the area or regional municipality, Ministry of Municipal Affairs and Housing, or before the Ontario Municipal Board, which are pending approval.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Records of Committees of Adjustment and Land Division Committees were not examined at this stage. Reliance was placed on information regarding consents obtained from planning staffs. Committee records will be examined during Phase 4.

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE VICINITY FACTOR #8
Factor Groupings
Land Use, Planning and Land Ownership
Factor
Rural/Agricultural Designation

DEFINITION OF FACTOR:

Rural and/or Agricultural designations in area municipality Official Plans which refer to non-urban lands, whether currently in agricultural or other rural use.

RATIONALE/SIGNIFICANCE:

Official plan designations in the site vicinity are an indication of the community's intentions in the short to medium term future for agricultural land uses. The majority of area municipality official plans utilize the terms "rural" and "agricultural" interchangeably to refer to all those lands not designated for urban uses. The degree of constraint will vary depending on the permitted land uses within each designation. In some cases, the agricultural designation refers to prime agricultural lands (a high constraint) while rural refers to the balance of the lands (somewhat lesser constraint). The agricultural designation is generally intended to conserve agricultural resources.

SOURCES OF INFORMATION:

Area Municipalities Official Plans
Regional Municipalities Official Plans

INTERPRETATION/METHODOLOGY:

In most official plans, the rural and agricultural designations represent virtually the same land use opportunities. The incidence of these designations was plotted on 1:10000 scale base mapping of the potential site areas.

CRITERIA/INDICATORS:

Incidence of rural and agricultural land use designations in area and regional municipality official plans. Where distinction is made between prime and non-prime agricultural lands in the designations, the relative degree of constraint is noted.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

Some rural designations apply to non-prime agricultural lands.

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

SITE VICINITY FACTOR #8

Factor Groupings:
Human Environment
Factors:
Existing Community Character and Lifestyle
Indicators:
Land Use Pattern

DEFINITION OF INDICATOR:

The overall mix of land uses within the vicinity of candidate sites.

RATIONALE/SIGNIFICANCE:

This factor provides an indication of land use compatibility or conflicts in the area, the general character of the community and the development potential of certain land parcels.

SOURCES OF INFORMATION:

Site Investigation
Aerial Photography - 1976, Scale 1:10 000
- 1982 and 1983, Scale 1:30 000
Area Municipality Existing Land Use Maps

INTERPRETATION/METHODOLOGY:

The impact on existing community character is potentially a major constraint to siting.

The land use mix within rural settlements in the vicinity of sites was recorded in tabular form.

CRITERIA/INDICATORS:

Existing land use in vicinity of site.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

LOCAL ACCESS ROADS FACTOR #1

Factor Groupings:
Human Environment
Factor:
Existing Commercial and Industrial Uses
Indicator:
Distances Through Industrial Areas

DEFINITION OF INDICATOR:

The distance which local access roads pass through areas of existing industrial development.

RATIONALE/SIGNIFICANCE:

The OWMC facilities are essentially industrial in character and will have a substantial degree of compatibility with many of the existing industrial areas, which are generally characterized by noise, some airborne emissions, rail and truck traffic. Impacts associated with increased truck traffic through industrial areas will generally not be as great as routings through residential or commercial areas.

SOURCES OF INFORMATION:

Site Investigations
Aerial Photography - 1978, Scale 1:10 000

INTERPRETATION/METHODOLOGY:

This indicator does not represent a constraint.

Industrial lands under industrial use were plotted on 1:10 000 scale base maps and the length of the route through the designation was measured.

CRITERIA/INDICATORS:

Road length abutting existing commercial uses (one or both sides).

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

LOCAL ACCESS ROADS FACTOR #3
Factor Groupings:
Human Environment
Factors:
Future Commercial and Industrial Uses
Indicators:
Distance Through Designated Industrial
Areas

DEFINITION OF INDICATOR:

The distance which local access roads pass through designated industrial areas. Such areas are designated for future industrial uses in municipal Official Plans and in conformity with regional Official Plans. These areas may presently be developed or undeveloped.

RATIONALE/SIGNIFICANCE:

Impacts associated with increased noise and truck traffic through industrial areas will not be as great as increased traffic through residential or commercial areas.

SOURCES OF INFORMATION:

Area Municipality Official Plans
Regional Municipality Official Plans

INTERPRETATION/METHODOLOGY:

This indicator represents a siting opportunity.

Industrially designated areas were plotted on 1:10 000 scale base maps and the distance of the route through the designated area was measured.

CRITERIA/INDICATORS:

Road length abutting designated industrial areas (one or both sides).

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

LOCAL ACCESS ROADS FACTOR #3

Factor Grouping:
Human Environment
Factor:
Existing Residents
Indicator:
Number of Residences

DEFINITION OF INDICATOR:

The number of residential units fronting onto local access roads, including residences and farm residences.

RATIONALE/SIGNIFICANCE:

Transportation impacts through areas with many residences include increased noise and truck traffic and a possible increased threat to safety. Access routes which have fewer abutting residences are more favourable than routes with many abutting residential uses.

SOURCES OF INFORMATION:

Site Investigations
Aerial Photography - 1978, Scale 1:10 000

INTERPRETATION/METHODOLOGY:

This indicator represents a constraint varying in importance with the number of housing units.

Residential units were plotted on 1:10 000 scale base maps.

CRITERIA/INDICATORS:

Incidence of housing units.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

LOCAL ACCESS ROADS FACTOR #3

Factor Groupings:
Human Environment
Factors:
Existing Residents
Indicators:
Distance Through Strip (Residential)
Development

DEFINITION OF INDICATOR:

The distance trucks travelling to the site would travel through strip residential development along local access roads.

RATIONALE/SIGNIFICANCE:

Impacts through residential strip development include increased noise and truck traffic and increased threat to safety. The potential risk as a result of possible spills must also be considered. Access routes passing through areas with little or no residential strip development are more desirable than through areas of intense or continuous strip development.

SOURCES OF INFORMATION:

Site Investigations
Aerial Photography - 1978, Scale 1:10 000

INTERPRETATION/METHODOLOGY:

This indicator represents a major constraint varying in importance with the size of the residential strips.

Residential strip development areas were plotted on 1:10 000 scale base maps and the length of the route through the designation was measured.

CRITERIA/INDICATORS:

Incidence of housing in strips or clusters.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A.

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

LOCAL ACCESS ROADS FACTOR #4

Factor Groupings

Human Environment

Factor

Future Residents

Indicator

Distance Through Residential Land Use
Designations

DEFINITION OF INDICATOR:

The distance that local access roads pass through areas that have been designated for residential uses by municipal official plans. These designated areas may or may not be presently developed.

RATIONALE/SIGNIFICANCE:

Residentially designated areas which are presently not developed represent areas of potential future development. Increased truck traffic and noise through residential areas is not desirable. Local access routes which pass through few or no areas with residential designations are preferable.

SOURCES OF INFORMATION:

Area Municipality Official Plans

INTERPRETATION/METHODOLOGY:

Future residential designations represent a major constraint to siting. This may be reduced by design measures to decrease the number of direct access points to the road and to increase residential setbacks.

Residential and similar designations were plotted on 1:10 000 scale base maps and the length of the route through the designation was measured.

CRITERIA/INDICATORS:

Incidence of residential and similar designations, e.g., hamlet or settlement area, in Area Municipality Official Plans.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

LOCAL ACCESS ROADS FACTOR #1
Factor Groupings
Human Environment
Factor
Existing Commercial and Industrial Uses
Indicators
Distance Through Commercial Areas

DEFINITION OF INDICATOR:

The distance which local access roads pass through areas of existing commercial development. Commercial uses include shopping centres, offices and personal service uses.

RATIONALE/SIGNIFICANCE:

Impacts associated with increased noise and truck traffic through commercial areas are undesirable. Disruption to local businesses or conflicts with vehicular traffic in the commercial area are potential concerns.

SOURCES OF INFORMATION:

Site Investigations
Aerial Photography - 1978, Scale 1:10 000

INTERPRETATION/METHODOLOGY:

The impact on existing commercial uses is highly dependent on the nature of the use, and the provisions for traffic through these areas. Major commercial uses have been eliminated at this stage by the constraint mapping.

The locations of lands under commercial use were plotted on 1:10 000 scale base maps and the length of the route through the designation was measured.

CRITERIA/INDICATORS:

Road length abutting existing commercial uses (one or both sides).

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**

LOCAL ACCESS ROADS FACTOR #2

Factor Grouping:

Human Environment

Factor:

Future Commercial and Industrial Uses

Indicator:

Distance Through Designated Commercial
Areas

DEFINITION OF INDICATOR:

The distance which local access roads travel through designated commercial areas. Such areas are designated for future commercial uses in municipal official plans and in conformity with regional official plans. These areas may presently be developed or undeveloped.

RATIONALE/SIGNIFICANCE:

Impacts associated with increased noise and truck traffic through commercial areas are undesirable. Disruption to local businesses or conflicts with future vehicular traffic are potential concerns.

SOURCES OF INFORMATION:

Area Municipality Official Plans

Regional Municipality Official Plans

INTERPRETATION/METHODOLOGY:

This indicator represents a minor constraint. Mitigation measures can minimize impact.

Commercially-designated areas were plotted on 1:10 000 scale base maps and the length of the route through the designation was measured.

CRITERIA/INDICATORS:

Road length abutting designated commercial areas (one or both sides).

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

**IDENTIFICATION OF CANDIDATE
SITE FACTORS**
REGIONAL ACCESS ROADS FACTOR #1
Factor Groupings:

Human Environment

Factor:

Existing Residents

Indicator:

 Distance Through Strip Residential
Development

DEFINITION OF INDICATOR:

The distance trucks travelling to the site would travel through strip residential development along regional access roads.

RATIONALE/SIGNIFICANCE:

Impacts through low to high density strip development include increased noise and truck traffic and an increased threat to safety. The potential risk as a result of possible spills must also be considered. Access routes passing through areas with little or no residential strip development are more desirable than through areas of intense or continuous strip development.

SOURCES OF INFORMATION:

Site Investigations

Aerial Photography - 1976, Scale 1:10 000

- 1982 and 1983, Scale 1:30 000

INTERPRETATION/METHODOLOGY:

Potential impact on existing residents is a major constraint to siting.

The locations of existing strip residential development were previously plotted on 1:50 000 scale maps as a constraint mapping factor. The distance of the route through strip residential development was measured.

CRITERIA/INDICATORS:

Incidence of strip residential development, a minimum of fifteen residences within a 500 m radius cluster.

COMMENTS/ASSUMPTIONS/LIMITATIONS:

N/A

APPENDIX J

**IDENTIFICATION OF CANDIDATE SITES
DATA SUMMARY TABLES**

**TABLE 1 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS**

SITE FACTORS/ INDICATORS	LF-10W			LF-11W	LF-1E		
	(Composite) (N. Site) (S. Site)				(Composite) (N. Site)		(S. Site)
1. Number of Residences displaced							
Total	9	4	3	8	16	8	6
2. a) Existing Commercial Facilities							
. Number	§	§	§	§	1	1	§
. Type					Frontier Auto Dismantlers	Frontier Auto Dismantlers	
b) Existing Industrial Facilities							
. Number	§	§	§	§	§	§	§
. Type							
3. Future Residents							
a) projected population levels	§	§	§	§	§	§	§
b) approved res. plans of subd.							
c) res. land use designation							
d) residential zoning							
e) res. development proposals							
4. Future Resources Official Plan Designation(s)	Rural Agr. 1 and 11 Open space	Rural Agr. 1 and 11 Open space	Rural Agr. 1 and 11	Agricultural	Good General Agricultural	Good General Agricultural	(both)
5. a) Future Commercial Facilities							
. Number	§	§	§	§	§	§	§
. Type							
b) Future Industrial Facilities							
. Number	§	§	§	§	§	§	§
. Type							
6. a) Land Value							
. per acre	\$1000-\$3500	\$1000-\$3500		\$1000-\$3500	\$600-\$8000	\$600-\$8000	
. site acquisition cost	\$1,090,000	365,000-580,000		\$1,049,000	\$1,706,000	\$841,000-789,800	
b) Land Fragmentation							
. no. of parcels	8	4	3	10	25	12	11
. area of acquisition	627ac(254ha)	357.7ac (144.7ha)	298.41ac (120.8ha)	370ac (150ha)	675ac(273ha)	297.54ac (120.4ha)	294.02ac (119.9ha)
. average parcel size	75ac(30ha)	89.5ac (36.2ha)	99ac (40ha)	37ac(15ha)	24ac(10ha)	24.8ac (10ha)	26.7ac (10.8ha)
c) Land Ownership							
. area in public ownership	§	§	§	§	4.5ac(1.8ha)	4.48ac (1.8ha)	0
. agency					St. Lawrence Seaway Authority	St. Lawrence Seaway Authority	0
. percentage of site publicly owned	§	§	§	§	0.7%	1.5%	0

**TABLE 1 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS**

SITE FACTORS/INDICATORS

SITE FACTORS/ INDICATORS	LF-3E	LF-3C	LF-EC	LF-9C	LF-4N
1. Number of Residences displaced					
Total	10	9	7	3	6
2. a) Existing Commercial Facilities					
. Number	1	#	#	#	#
. Type	Canine Education Centre				
b) Existing Industrial Facilities					
. Number	#	#	#	#	#
. Type					
3. Future Residents					
a) projected population levels	#	#	#	#	#
b) approved res. plans of subdivision					
c) res. land use designation					
d) residential zoning					
e) res. development proposals					
4. Official Plan Designation(s)	Good General Agricultural Open Space	Rural Hazard Lands	Rural Hazard Lands	Rural Hazard Lands	Agriculture
5. a) Future Commercial Facilities					
. Number	#	#	#	#	#
. Type					
b) Future Industrial Facilities					
. Number	#	#	#	#	#
. Type					
6. a) Land Value					
. per acre	\$600-\$8000	\$1200-\$1700	\$1200-\$1700	\$1200-\$1700	\$3000
. site acquisition cost	not known	\$1,186,000	not known	\$474,000	\$1,527,000
b) Land Fragmentation					
. no. of parcels	20	13	7	4	8
. area of acquisition	407ac (165ha)	640ac (259ha)	371ac (150ha)	335ac (136ha)	415ac (168ha)
. average parcel size	22ac (9ha)	54ac (22ha)	53ac (21ha)	87ac (35ha)	51ac (21ha)
c) Land Ownership					
. area in public ownership	#	#	#	#	#
. agency					
. percentage of site publicly owned					

**TABLE 1 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS**

SITE FACTORS/ INDICATORS	SITE FACTORS, INDICATORS					
	LF-2N	PI-1A1	LF-2N	PI-1N		
	/		/			
1. Number of Residences displaced				(Composite)	(E. Site)	(W. Site)
Total	5	5	5	13	1	3
2. a) Existing Commercial Facilities						
. Number	2	#	2	3	2	1
. Type	Shell Gas Station Contractors Yard		Shell Gas Station Contractors Yard	Riding Stable Airstrips (2)	Airstrips	Airstrip
b) Existing Industrial Facilities						
. Number	1	#	1	#	#	#
. Type	Region of Peel Public Works Yard		Region of Peel Public Works Yard			
3. Future Residents						
a) projected population levels	#	#	#	#	#	#
b) approved res. plans of subdivision						
c) res. land use designation						
d) residential zoning						
e) res. development proposals						
4. Official Plan Designation(s)	Special Policy Area	Industrial Commercial Open Space	Special Policy Area	Agricultural Conservation Hazard Lands	Agricultural Conservation (both)	
5. a) Future Commercial Facilities						
. Number	*	Official Plan permits a service commercial use which may be about 5 acres in area.	*	#	#	#
. Type						
b) Future Industrial Facilities						
. Number	*	Official Plan permits the entire site to develop for industrial uses, excluding hazard lands and commercial.	*	#	#	#
. Type						
6. a) Land Value						
. per acre	\$40,000	\$2500-\$42,000	\$40,000	\$2800-3500	\$2800-3500 (both)	
. site acquisition cost	\$16,400,000	\$9,039,000	\$16,400,000	\$3,900,000	2,067,000-2,013,000	
b) Land Fragmentation						
. no. of parcels	9 (inc. Hydro)	3	9 (inc. Hydro)	23	11**	10
. area of acquisition	399ac (161ha)	303ac (122ha)	399ac (161ha)	965ac (391ha)	615.62ac (249.14ha)	473.59ac (191.7ha)
. average parcel size	44ac (18ha)	101ac (41ha)	44ac (18ha)	42ac (17ha)	61.6ac (24.9ha)	52.4ac (21.2ha)
c) Land Ownership						
. area in public ownership	± 15ac (6ha)	19ac (8ha)	#	#	1.0ac	0
. agency	Ontario Hydro line	M.T.R.C.A.	Ontario Hydro line		H.E.P.C.	0
. percentage of site publicly owned	4%	6%	4%		0.16%	0
	* proposed Derry East Business Park Secondary Plan would permit a variety of industrial and commercial uses.		* proposed Derry East Business Park Secondary Plan would permit a variety of industrial and commercial uses.		** includes H.E.P.C. parcel	

TABLE 1 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

SITE FACTORS/INDICATORS

SITE FACTORS/ INDICATORS	LF 2N /	PI 13N	LF 4N /	PI-1N		
1. Number of Residences displaced			(Composite)	(E. Site)	(W. Site)	
Total	5	4	6	13	1	3
2. a) Existing Commercial Facilities						
. number	2	0	0	3	2	1
. type	Shell Gas Station Contractors Yard			Riding stable Airstrips (2)	Airstrips	Airstrip
b) Existing Industrial Facilities						
. number	1	0	0	0	0	0
. type	Region of Peel Public Works Yard					
3. Future Residents						
a) projected population levels	0	0	0	0	0	0
b) approved res. plans of subd.						
c) res. land use designation						
d) residential zoning						
e) res. development proposals						
4. Official Plan Designation(s)	Special Policy Area*	Agriculture	Agriculture	Agriculture Conservation/ Hazard	Agriculture Conservation (both)	
5. a) Future Commercial Facilities						
. number	0	0	0	0	0	0
. type						
b) Future Industrial Facilities						
. number	0	0	0	0	0	0
. type						
6. a) Land Value						
. per acre	\$40,000	\$2800-\$10,000	\$3000	\$2800-\$3500	\$2800 - 3500 (both)	
. site acquisition cost	\$16,400,000	Not known	\$1,527,000	\$3,900,000	2,067,000-2,013,000	
b) Land Fragmentation						
. No. of parcels	9	5	8	23	11**	10
. area of acquisition	399ac.(161ha)	413 ac(167 ha)	407 ac.(165 ha)	965 ac.(391 ha)	615.62ac (249.14ha)	473.59ac (191.7ha)
. average parcel size	44ac.(11 ha)	83 ac.(33 ha)	51 ac.(21 ha)	42 ac.(17 ha)	61.6ac (24.9ha)	52.4ac (21.2ha)
c) Land Ownership						
. area in public ownership	115 ac.(6 ha)	360 ac.(146 ha)	0	0	1.0ac	0
. agency	Ontario Hydro	Ontario Land Cor- poration			H.E.P.C.	0
. percentage of site publicly owned	4%	87%			0.16%	0
	* Proposed Derry East Business Park Secondary Plan would permit a variety of industrial & commercial uses.				** includes H.E.P.C. parcel	

TABLE 1 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

SITE FACTORS/INDICATORS

SITE FACTORS/ INDICATORS	LP 4N / PI 13N	LP 10W / PI 2W	LP 11W / PI 2W
1. Number of Residences displaced			
Total	6	9	8
2. a) Existing Commercial Facilities . number . type	0	0	0
b) Existing Industrial Facilities: . number . type	0	0	0
3. Future Residents a) projected population levels b) approved res. plans of subd. c) res. land use designation d) residential zoning e) res. development proposals	0	0	0
4. Official Plan Designation(s)	Agriculture Agriculture Conservation/ Hazard Lands	Rural Agricultural I Rural Agricultural II Open Space	Industrial Agricultural Agricultural Industrial Agricultural
5. a) Future Commercial Facilities . number . type	0	0	0
b) Future Industrial Facilities . number . type	0	0	The Official Plan permits about 70% of the site to be developed for industrial purposes
6. a) Land Value . per acre . site acquisition cost	\$3000 \$1,527,000	\$2800-\$10,000 Not known	\$1000-\$3500 \$1,090,000
b) Land Fragmentation . No. of parcels . area of acquisition . average parcel size	8 407 ac. (165 ha) 51 ac. (21 ha)	5 413 ac. (167 ha) 83 ac. (33 ha)	8 604 ac. (244 ha) 75 ac. (30 ha)
c) Land Ownership . area in public ownership . agency . percentage of site publicly owned	0 360 ac. (146 ha) Ontario Land Corporation 87%	0 113 ac. (46 ha) Reg. H. Wentworth Hydro, M.T.C. 30%	10 370 ac. (150 ha) 37 ac. (15 ha) 11 375 ac. (152 ha) 53 ac. (22 ha) 113 ac. (46 ha) Reg. H. Wentworth Hydro, M.T.C. 30%

**TABLE 1 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS**

SITE FACTORS/INDICATORS				
SITE FACTORS/ INDICATORS	LF-1C	PI-10E	LF-1E	PI-27E
1. Number of Residences displaced				
Total	4	11	16	6
2. a) Existing Commercial Facilities				
. Number	0	2	1	0
. Type		Seaway Used Car Lot and Body Shop	Frontier Auto Dismantlers	
b) Existing Industrial Facilities				
. Number	0	0	0	1
. Type				110,000 sq.ft. warehouse/office with 3 uses presently
3. Future Residents				
a) projected population levels	0	0	0	0
b) approved res. plans of subdivision				
c) res. land use designations				
d) residential zoning				
e) res. development proposals				
4. Official Plan Designation(s)	Industrial* Rural	Heavy Industrial* Rural *	Good General Agricultural	Industrial*
5. a) Future Commercial Facilities				
. Number			0	0
. Type				
b) Future Industrial Facilities				
. Number		Official Plan permits industrial development of about 60% of site	0	Proposed Official Plan would permit industrial development of entire site.
. Type				
6. a) Land Value				
. per acre	Not known	Not known	\$600-8000	\$1400-10,000
. site acquisition cost			\$1,706,000	\$3,800,000
b) Land Fragmentation				
. no. of parcels	9	21	25	13
. area of acquisition	309 ac.(161 ha)	313 ac.(127 ha)	594ac(241ha)	442ac(180ha)
. average parcel size	44 ac.(18 ha)	14 ac. (6 ha)	24ac(10ha)	37ac(15ha)
c) Land Ownership				
. area in public ownership	188 ac.(76 ha)	10 ac. (4 ha)	4.5ac(1.8ha)	+30ac(12ha)
. agency	St.Lawrence Seaway Authority	St. Lawrence Seaway Authority 31 Ontario Hydro	St. Lawrence Seaway Authority	Ontario Hydro
. percentage of site publicly owned	47%	*This reflects unapproved draft City of Welland Official Plan.	0.7%	7%
	This reflects proposed O.P.A.#4 which has been adopted by the Township and the Region, and is before the Ontario Municipal Board			* Based on Niagara Falls Official Plan not yet approved.

**TABLE 2 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS**

SITE VICINITY FACTORS/INDICATORS									
SITE VICINITY FACTORS/ INDICATORS		LF-10W			LF-11W		LF-1E		
1. Number of Residences affected		(Composite) (N. Site) (S. Site)					(Composite) (N. Site) (S. Site)		
Total		16	6	10	38		22	5	19
2. Land Use Pattern		Agricultural with significant Hydro corridor and transmission station impact.			Agricultural with significant residences and some Hydro corridor and transmission station impact		Agricultural with some non-farm uses, incl. rural residences and commercial uses.		
3. Future Residents		\$	\$	\$	\$		\$	\$	\$
a) projected population levels									
b) approved res. plans of subdivision									
c) res. land use designations									
d) residential zoning									
e) res. development proposals									
4. Official Plan Designation(s)		Rural Agricultural 1 & 11 Open Space			Agricultural Rural Agricultural 1 & 11 Open Space		Good General Agricultural		
5. a) Existing Commercial Facilities									
. Number		1	\$	1	1		2	1	1
. Type		B&H Automobile repair		B&H Automobile repair	Kennel		Commercial Building	Commercial Building	Savoie's used cars, auto repair
b) Existing Industrial Facilities									
. Number		\$	\$	\$	\$		\$	\$	\$
. Type									
6. a) Future Commercial Facilities									
. Number		\$	\$	\$	\$		\$	\$	\$
. Type									
b) Future Industrial Facilities									
. Number		\$	\$	\$	\$		\$	\$	\$
. Type									

**TABLE 2 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS**

SITE VICINITY FACTORS/INDICATORS

SITE VICINITY FACTORS/ INDICATORS	LF-3E	LF-3C	LF-8C
1. Number of Residences affected			
Total	10	7	11
2. Land Use Pattern	Agricultural with some non-farm uses. Site abuts developing industrial area with light and heavy industrial uses	Agricultural, very few non- farm uses	Agricultural, few non-farm residences
3. Future Residents			
a) projected population levels	#	#	#
b) approved res. plans of subdivision			
c) res. land use designations			
d) residential zoning			
e) res. development proposals			
4. Official Plan Designation(s)	Good General Agricultural Industrial Hazard Lands	Rural Hazard Lands	Rural Hazard Lands
5. a) Existing Commercial Facilities			
. Number	1	#	2
. Type	small repair operation		Vacant grocery store hairstylist
b) Existing Industrial Facilities			
. Number	#	#	#
. Type			
6. a) Future Commercial Facilities			
. Number	#	#	#
. Type			
b) Future Industrial Facilities			
. Number	lands north of site proposed for industrial development in draft Official Plan, Zoning approved	#	#
. Type			

TABLE 2 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

SITE VICINITY FACTORS/INDICATORS

SITE VICINITY FACTORS/ INDICATORS	LF 9C	LF 4N	LF 2N /	PI 1A1
1. Number of Residences affected				
Total	15	13	16	11
2. Land Use Pattern	Agricultural, some non-farm residences	Agricultural, with some non-farm residential uses. Niagara Escarpment is dominant visual feature.	Rural area with many urban uses, area under pressure for urban development.	Industrial development currently underway. Future and existing residential uses to the north.
3. Future Residents			Uncertainty of O.P. designation, residential uses may be permitted in future.	± 600 ± 50 ac. ± 5 ac.
4. Official Plan Designation(s)	Rural Hazard Lands Highway Commercial	Agriculture, Conservation & Hazard Lands	Special Policy Area * Major Open Space	Rural Open Space, Commercial, Residential, Rural Estate, Rural Estate Expansion
5. a) Existing Commercial Facilities				
. number	1		5	
. type	vacant gas station		Restaurants(2)/Gas Stations(3)/Fruit Market (1)	
b) Existing Industrial Facilities				
. number				2
. type				13,000 s.f. industrial office 298,000 s.f. industrial office
6. a) Future Commercial Facilities			Unknown-subject to O.P. uncertainty *	O.P. provides for service commercial use.
. number				
. type				
b) Future Industrial Facilities			Unknown-subject to O.P. uncertainty *	All lands south and west to be developed Industrial. At least one use presently under construction.
. number				
. type				

* Some portions of Site Vicinity are to be redesignated Industrial (north, east, south)

TABLE 2 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

SITE VICINITY FACTORS/ INDICATORS	SITE VICINITY FACTORS/INDICATORS			
	LF-2H	/	PI-1H	
1. Number of Residences affected			(Composite)	(E. Site) (W. Site)
Total	14	14	14	3
2. Land Use Pattern	Rural area with many urban uses, area under pressure for urban development		Agricultural area with significant non-farm uses.	
3. Future Residents	Uncertainty of O.P. designation, residential uses may be permitted in future.			
a) projected population levels				
b) approved res. plans of subdivision				
c) res. land use designations				
d) residential zoning				
e) res. development proposals				
4. Official Plan Designation(s)	Special Policy Area * Major Open Space		Agriculture Conservation Hazard Lands Parkway Belt	
5. a) Existing Commercial Facilities				
. Number	5	1	1	
. Type	Restaurant(2)/Gas Stations(3)/Fruit Market(1)	nursery	nursery (both)	
b) Existing Industrial Facilities				
. Number				
. Type				
6. a) Future Commercial Facilities				
. Number	unknown subject to O.P. uncertainty *			
. Type				
b) Future Industrial Facilities				
. Number	unknown subject to O.P. uncertainty *			
. Type				

* some portions of site vicinity are to be redesignated Industrial (north, east, south)

**TABLE 2 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS**

SITE VICINITY FACTORS/INDICATORS

SITE VICINITY FACTORS/ INDICATORS	/			
	LF-4W	(Composite)	(E. Site)	(W. Site)
1. Number of Residences affected				
Total	13	14	14	3
2. Land Use Pattern	Agricultural area with significant non-farm uses. Agricultural area with some non-farm uses. Niagara Escarpment is dominant visual feature.			
3. Future Residents	\$	\$	\$	\$
a) projected population levels				
b) approved res. plans of subdivision				
c) res. land use designations				
d) residential zoning				
e) res. development proposals				
4. Official Plan Designation(s)	Agriculture Conservation & Hazard Lands	Agricultural Conservation and Hazard Lands Parkway Belt		
5. a) Existing Commercial Facilities				
. Number	\$	1	1	1
. Type		nursery	nursery	nursery
b) Existing Industrial Facilities				
. Number	\$	\$	\$	\$
. Type				
6. a) Future Commercial Facilities				
. Number	\$	\$	\$	\$
. Type				
b) Future Industrial Facilities				
. Number	\$	\$	\$	\$
. Type				

**TABLE 2 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS**

SITE VICINITY FACTORS/INDICATORS						
SITE VICINITY FACTORS/ INDICATORS	LF-10W /			PI-2W	LF-11W / PI-2W	
1. Number of Residences affected	(Composite) (N. Site) (S. Site)					
Total	16	6	10	7	38	7
2. Land Use Pattern	Agricultural with significant hydro corridor and transmission station impact.			Industrial development currently underway, abutting hamlet of Duff's Corners with several residential, commercial uses.	Agricultural with significant non-farm residences and some Hydro corridor and transmission station impact.	Industrial development currently underway abutting hamlet of Duff's Corners with several residential, commercial uses.
3. Future Residents	#	#	#	some residential infilling possible associated with Duff's Corners.	#	some residential infilling possible associated with Duff's Corners.
a) projected population levels						
b) approved res. plans of subdivision						
c) res. land use designations						
d) residential zoning						
e) res. development proposals						
4. Official Plan Designation(s)	Rural Agricultural 1 & 11, Agricultural, Open Space			Commercial, Industrial, Agricultural	Agricultural Rural Agricultural 1 & 11, Open Space	Commercial, Industrial, Agricultural
5. a) Existing Commercial Facilities						
. Number	1	#	1	3	1	3
. Type	B&H Auto Repair		B&H Auto Repair	2 Gas Stations 1 Restaurant	Kennel	2 Gas Station 1 Restaurant
b) Existing Industrial Facilities						
. Number	#	#	#	1	#	1
. Type				Canadian Institute of Metallurgy (Under Construction)		Canadian Institute of Metallurgy (Under Construction)
6. a) Future Commercial Facilities						
. Number	#	#	#	As permitted in Official Plan	#	As permitted in Official Plan
. Type						
b) Future Industrial Facilities						
. Number	#	#	#	As permitted in Official Plan	#	As permitted in Official Plan
. Type						

TABLE 2 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

SITE VICINITY FACTORS/INDICATORS

SITE VICINITY FACTORS/ INDICATORS	LF-1E / PI-27E			LF-4N / PI-13N	
	(Composite) (N. Site) (S. Site)				
1. Number of Residences affected					
Total	22	5	19	6	13
2. Land Use Pattern	Agricultural with some non-farm uses, incl. rural residences and commercial uses.			Primarily vacant lands to be developed for industrial uses, abuts heavy industrial area to north, agricultural uses to south. 3 industrial uses in area.	Agricultural, with some non-farm residential uses, Niagara Escarpment is dominant visual feature.
3. Future Residents					
a) projected population levels					
b) approved res. plans of subdivision					
c) res. land use designations					
d) residential zoning					
e) res. development proposals					
4. Official Plan Designation(s)	Good General Agricultural			Industrial, Good General Agricultural Hazard Lands, Highway Commercial, Open Space	Agriculture Conservation & Hazard Lands
5. a) Existing Commercial Facilities					
. Number	2	1	1		
. Type	Commercial Building Used Car and Auto Repair	Commercial Building	Savoie's used cars, auto repair		
b) Existing Industrial Facilities					
. Number				2	
. Type				Ford Glass Plant Direct Transport	
6. a) Future Commercial Facilities					
. Number					
. Type					
b) Future Industrial Facilities					
. Number				As permitted in Official Plan	
. Type					

**TABLE 2 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATOR**

SITE VICINITY FACTORS/INDICATORS

SITE VICINITY FACTORS/ INDICATORS	LF-1C	/	PI-18E
1. Number of Residences displaced			
Total	4		20
2. Land Use Pattern	Agricultural Area with many residential units beyond the site vicinity + 50. To be developed for industrial. On the edge of major heavy and light industrial area scattered with residential and commercial uses.		
3. Future Residents			
a) projected population levels			
b) approved res. plans of subd.			
c) res. land use designations			
d) residential zoning			
e) res. development proposals			
4. Official Plan Designation(s)	Industrial* Rural Heavy Industrial Light Industrial Hazard Lands		
5. a) Existing Commercial Facilities			
. number			1
. type			Seaway Salvage Yard
b) Existing Industrial Facilities			
. number			7
. type			variety of light, medium and heavy industrial uses.
6. a) Future Commercial Facilities			
. number			
. type			
b) Future Industrial Facilities			
. number			
. type			
	As permitted in Official Plan if approved As permitted in Official Plan *Reflects O.P.A. #4 which is before the Ontario Municipal Board for approval.		

TABLE 2 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

SITE VICINITY FACTORS/INDICATORS		
SITE VICINITY FACTORS/ INDICATORS	LP-2N	PI-13N
1. Number of Residences affected		
Total	16	18
2. Land Use Pattern	Rural area with many urban uses, area under pressure for urban development.	Agricultural area with many residential units. Land ownership reveals that land speculation is significant.
3. Future Residents	Uncertainty of O.P. designation, residential uses may be permitted in future.	
a) projected population levels		
b) approved res. plans of subdivision		
c) res. land use designations		
d) residential zoning		
e) res. development proposals		
4. Official Plan Designation(s)	Special Policy Area* Major Open Space	Agriculture Conservation and Hazard Lands
5. a) Existing Commercial Facilities		
. Number	5	
. Type	Restaurant (2)/Gas Stations (3)/Fruit Market (1)	
b) Existing Industrial Facilities		
. Number		
. Type		
6. a) Future Commercial Facilities		
. Number	Unknown subject to O.P. uncertainty *	
. Type		
b) Future Industrial Facilities		
. Number	Unknown subject to O.P. uncertainty *	
. Type		
*Some portions of site vicinity are to be re- designated Industrial (north, east, south).		



TABLE 3 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

LOCAL & REGIONAL ACCESS ROAD FACTORS

ACCESS ROAD - LOCAL FACTORS/INDICATORS	LF 10W to LF 10W	PI 2W to LF 10W	LF 11W to LF 11W	PI 2W to LF 11W	from 406 (existing) N/A	from QEN	LF 1E from 406 (proposed) N/A	from PI 27E
1. a) Number of Residences	6	6	N/A	6	N/A	8	N/A	8
b) Distance through Residential strip development	0	0		0		0		0
2. Distance through Residential Designations	0	0		0		0		0
3. a) Distance through Commercial Areas	0	0		0		0		0
b) Distance through Industrial Areas	0	0		0		0		0
4. a) Distance through Commercial Designations	0	0		0		0		0
b) Distance through Industrial Designations	0	1 km (1 side)		1 km (1 side)		0		0
ACCESS ROADS - REGIONAL FACTORS/INDICATORS								
1. Distance through residential strip development	0	0	0	0	7.0 km (Welland) *	0	.5 km	0

* within
Welland
Municipal

TABLE 3 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

LOCAL & REGIONAL ACCESS ROAD FACTORS

ACCESS ROAD - LOCAL FACTORS/INDICATORS	LF 3E			LF 3C (from QEW in all cases)		
	from 406 (existing)	from QEW	from 406 (proposed)	Reg. Rd. 24/May 20	Reg. Rd. 24/Canborough	Reg. Rd. 18
1. a) Number of Residences	N/A	N/A	N/A	24	24	24
b) Distance through Residential strip development				0	0	0
2. Distance through Residential Designations				0	0	0
3. a) Distance through Commercial Areas				0	0	0
b) Distance through Industrial Areas				0	0	0
4. a) Distance through Commercial Designations				0	0	0
b) Distance through Industrial Designations				0	0	0
ACCESS ROADS - REGIONAL FACTORS/INDICATORS						
1. Distance through residential strip development	7.0 km Welland	0	.5 km (Welland) *	4.5 km Vineland .2 km Bismarck 4.7 total	4.5 km Vineland 1.5 km Wellandport 1.0 km Boyle 7.0 total	4.0 km Beamsv .2 km Bismar 1.0 km St. Ann 5.2 total

* within Welland
municipal
boundary

**TABLE 3 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS**

LOCAL & REGIONAL ACCESS ROAD FACTORS

ACCESS ROAD - LOCAL FACTORS/INDICATORS	LF 3C (from QEW in all cases) cont'd				
	Reg.Rd.14/Hwy 20	Reg.Rd.14/RR 714 Reg.Rd.16	Reg.Rd.12/Reg.Rd.27	Reg.Rd.12/Reg.Rd.14	R.R.14/R.R.81 R.R. 16
1. a) Number of Residences	24	N/A	24	N/A	N/A
b) Distance through Residential strip development	#		#		
2. Distance through Residential Designations	#		#		
3. a) Distance through Commercial Area	#		#		
b) Distance through Industrial Area	#		#		
4. a) Distance through Commercial Designations	#		#		
b) Distance through Industrial Designations	#		#		
ACCESS ROADS - REGIONAL FACTORS/INDICATORS					
1. Distance through residential strip development	1.9 km Grimsby 1.6 km Smithville .2 km Bismarck 3.7 total	1.9 km Grimsby 2.2 km Smithville 4.1 total	1.8 km Grimsby 1.9 km Smithville .2 km Bismarck 3.9 total	1.8 km Grimsby 2.2 km Smithville 4.0 total	4.2 km Grimsby/ Lincoln 2.2 km Smithville 6.4 total

TABLE 3 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

LOCAL & REGIONAL ACCESS ROAD FACTORS

ACCESS ROAD - LOCAL FACTORS/INDICATORS	LF SC cont'd RR 14/RR 81/ RR 27	LF SC (all from QEN) RR 24/ Hwy 20	RR 24/ Canborough 3	RR 18	RR 14/RR 714	RR 12	RR 14/ RR 81/ 3
1. a) Number of Residences	24	3	3	3	3	3	3
b) Distance through Residential strip development	0	0	0	0	0	0	0
2. Distance through Residential Designations	0	0	0	0	0	0	0
3. a) Distance through Commercial Areas	0	0	0	0	0	0	0
b) Distance through Industrial Areas	0	0	0	0	0	0	0
4. a) Distance through Commercial Designations	0	0	0	0	0	0	0
b) Distance through Industrial Designations	0	0	0	0	0	0	0
ACCESS ROADS - REGIONAL FACTORS/INDICATORS							
1. Distance through residential strip development	4.2 km Grimsby/ Lincoln 1.6 Smithville .2 Bismarck 6.0 total	4.5 Vineland	4.5 Vineland 1.0 Boyle 5.5 total	4.0 km Beamsville 1.0 St. Ann's .2 Bismarck 5.2 total	1.9 km Grimsby 1.6 Smithville .2 Bismarck 3.7 total	1.8 km Grimsby 1.9 Smithville .2 Bismarck 3.9 total	4.2 Grimsby Lincoln 1.6 Smithville .2 Bismarck 6.0 total

TABLE 3 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

LOCAL & REGIONAL ACCESS ROAD FACTORS

ACCESS ROAD - LOCAL FACTORS/INDICATORS	LF 9C (all from QEW)					LF 4H (from 401)	
	RR 24	RR 18	RR 14/RR 714	RR 12	RR 14/RR 18	#25/First Line	#75/Tremaine
1. a) Number of Residences	N/A	N/A	N/A	N/A	N/A	15	N/A
b) Distance through Residential strip development						2.5 km (Milton)	
2. Distance through Residential Designations						2.5 km	
3. a) Distance through Commercial Areas						0	
b) Distance through Industrial Areas						.75 km	
4. a) Distance through Commercial Designations						0	
b) Distance through Industrial Designations						.75 km	
ACCESS ROADS - REGIONAL FACTORS/INDICATORS							
1. Distance through residential strip development	4.5 km Vineland	4.0 Beamsville 1.0 St. Ann's .2 Bismarck <u>5.2 total</u>	1.9 Grimsby 1.6 Smithville .2 Bismarck <u>3.7 total</u>	1.8 Grimsby 1.9 Smithville .2 Bismarck <u>3.9 total</u>	4.2 Grimsby/Lincoln 1.6 Smithville .2 Bismarck <u>6.0 total</u>	0	.5 km (Steeles Ave CP Rail)

TABLE 3 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

LOCAL & REGIONAL ACCESS ROAD FACTORS

LP 4N (Cont'd)						
ACCESS ROAD - LOCAL FACTORS/INDICATORS	Fourth Line/ Britannia	Fourth Line/ Derry	Trafalgar Rd.	From 403	From QEW Trafalgar	From QEW Hwy. 25
1. a) Number of Residences	25	22	N/A	N/A	N/A	N/A
b) Distance through Residential strip development	#	#				
2. Distance through Residential Designations	.6 km (within Parkway Belt)	#				
3. a) Distance through Commercial Areas	#	#				
b) Distance through Industrial Areas	#	#				
4. a) Distance through Commercial Designations	#	#				
b) Distance through Industrial Designations	#	#				
ACCESS ROADS - REGIONAL FACTORS/INDICATORS						
1. Distance through residential strip development	.3 km Omagh	.6 km Omagh	.6 km Omagh .5 km Drumquin 1.1 km Total	.6 km Omagh .5 km Drumquin .6 km Paradise S/D 1.7 km Total	2.0 km Oakville .6 km Omagh .5 km Drumquin 3.1 km Total	1.7 km Palermo

TABLE 3 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

LOCAL & REGIONAL ACCESS ROAD FACTORS

ACCESS ROAD - LOCAL FACTORS/INDICATORS	LF 4N (cont'd) from PI 1N from PI 13N		LF 2N to LF 2N from 410 from PI 1A1 Derry, Dixie from 401 N/A Derry/Airport Steeles/Airport N/A N/A N/A N/A			
1. a) Number of Residences	N/A	1				
b) Distance through Residential strip development		0				
2. Distance through Residential Designations		0				
3. a) Distance through Commercial Areas						
b) Distance through Industrial Areas						
4. a) Distance through Commercial Designations						
b) Distance through Industrial Designations						
<u>ACCESS ROADS - REGIONAL FACTORS/INDICATORS</u>						
1. Distance through residential strip development	0	.6 km Omagh	0	0	3 km Malton	0

TABLE 3 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

LOCAL & REGIONAL ACCESS ROAD FACTORS

ACCESS ROAD - LOCAL FACTORS/INDICATORS	LF 2N cont'd from PI 1N			LF 2N from PI 1N			Hwy 25/ First Line	Hwy 25/ Tremin
	Trafalgar	Fourth Line/ Britannia	Fourth Line/ Derry	Trafalgar	Fourth Line Britannia			
1. a) Number of Residences	1	26	22	N/A	25		15	N/A
b) Distance through Residential strip development	0	0	0		0		2.5 km (Milton)	
2. Distance through Residential Designations	0	0	0		.6 km (Pky Belt)		2.5 km	
3 a) Distance through Commercial Areas	0	0	0		0		0	
b) Distance through Industrial Areas	0	0	0		0		.75 km	
4 a) Distance through Commercial Designations	0	0	0		0		0	
b) Distance through Industrial Designations	0	0	0		0		.75 km	
ACCESS ROADS - REGIONAL FACTORS/INDICATORS								
1. Distance through residential strip development	.5 km Drumquin	.3 km Omagh	0	.5 km Drumquin .6 km Omagh 1.1 total	.3 km Omagh	0		.5 km Steeles Ave/CP Rai

TABLE 3 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

LOCAL & REGIONAL ACCESS ROAD FACTORS

ACCESS ROAD - LOCAL FACTORS/INDICATORS	PI 1N to PI 1N from 401	#25/Tramline	from 401	from 401	from 403
1. a) Number of Residences	#25/First Line 15	N/A	Fourth Line/Britannia 25	Trafalgar N/A	N/A
b) Distance through Residential strip development	2.5 km (Milton)		0		
2. Distance through Residential Designations	2.5 km		.6 km (Pkwy Belt)		
3. a) Distance through Commercial Areas	0		0		
b) Distance through Industrial Areas	.75 km		0		
4. a) Distance through Commercial Designations	0		0		
b) Distance through Industrial Designations	.75 km		0		
ACCESS ROADS - REGIONAL FACTORS/INDICATORS					
1. Distance through residential strip development	0	.5 km Steeles Ave/CP Rail	.3 km Omagh	.5 km Drumquin .6 km Omagh 1.1 km Total	.5 km Drumquin .6 km Omagh .6 km Paradise Sub 1.7 km Total

TABLE 3 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

LOCAL & REGIONAL ACCESS ROAD FACTORS

ACCESS ROAD - LOCAL FACTORS/INDICATORS	PI 1N cont'd from OEM		PI 13N (from 401)			
	Trafalgar N/A	Hwy 25 N/A	Fourth line/Britannia/ Fifth Line 26	Fourth line/ Derry/Fifth Line 22	Trafalgar/ Britannia 1	from 401
1. a) Number of Residences						1
b) Distance through Residential strip development			0	0	0	0
2. Distance through Residential Designations			0	0	0	0
3 a) Distance through Commercial Areas			0	0	0	0
b) Distance through Industrial Areas			0	0	0	0
4 a) Distance through Commercial Designations			0	0	0	0
b) Distance through Industrial Designations			0	0	0	0
ACCESS ROADS - REGIONAL FACTORS/INDICATORS						
1. Distance through residential strip development	2 km Oakville .6 km Omagh .5 km Drumquin 3.1 total	1.7 km Palermo	.6 km Omagh	0	.5 km Drumquin	.5 km Drumquin .6 km Paradise S/D 1.1 km Total

**TABLE 3 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS**

LOCAL & REGIONAL ACCESS ROAD FACTORS

ACCESS ROAD - LOCAL FACTORS/INDICATORS	PI 13W cont'd from GEN		PI 1A1 from 401 Derry/Airport		from 410 Derry/Airport		Derry/Dixie Steeles/Airport	
	Trafalgar	Hwy 25 /Britannia						
1. a) Number of Residences	1	1	N/A	N/A	N/A	N/A	N/A	N/A
b) Distance through Residential strip development	0	0						
2. Distance through Residential Designations	0	0						
3 a) Distance through Commercial Areas	0	0						
b) Distance through Industrial Areas	0	0						
4 a) Distance through Commercial Designations	0	0						
b) Distance through Industrial Designations	0	0						
ACCESS ROADS - REGIONAL FACTORS/INDICATORS								
1. Distance through residential strip development	.5 km Crumquin	1.7 km Palermo .6 km Omagh <u>2.3 total</u>	3 km Malton	0	3 km Malton			0
	2 km Oakville							
	2.5 km Total							

**TABLE 3 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS**

LOCAL & REGIONAL ACCESS ROAD FACTORS

ACCESS ROAD - LOCAL FACTORS/INDICATORS	LF IC				PI 18E	
	to LF IC from DEN	from 406 (proposed) and Netherby Road	from 406 (existing) and Netherby Road	from PI 18E	from 406 (proposed)	from 406 (existing)
1. a) Number of Residences	1	1	1	1	N/A	N/A
b) Distance through Residential strip development	0	0	0	0		
2. Distance through Residential Designations	0	0	0	0		
3. a) Distance through Commercial Areas	0	0	0	0		
b) Distance through Industrial Areas	0	0	0	0		
4. a) Distance through Commercial Designations	0	0	0	0		
b) Distance through Industrial Designations	0	0	0	0		
ACCESS ROADS - REGIONAL FACTORS/INDICATORS						
1. Distance through residential strip development	4.5 km Vineland 1.5 km Beckett's Bridge 1.0 km near site <u>7.0 total</u>	.5 km (Welland) <u>1.0 km R.R. 23</u> 1.5 total	7.0 km Welland <u>1.0 km R.R. 23</u> 8.0 total	1.0 km R.R. 23	.5 km (Welland)*	7.0 km Welland
		* within Welland Municipal Boundary			* within Welland Municipal Boundary	

TABLE 3 INITIAL COMPARATIVE EVALUATION
FACTORS AND INDICATORS

LOCAL & REGIONAL ACCESS ROAD FACTORS

ACCESS ROAD - LOCAL FACTORS/INDICATORS	PI 2W to PI 2W	PI 27E From 406 Existing	From QEW Regional Road 47	From 406 (proposed)
1. a) Number of Residences	4	N/A	N/A	N/A
b) Distance through Residential strip development	0			
2. Distance through Residential Designations	0			
3. a) Distance through Commercial Areas	.5 km (1 side)			
b) Distance through Industrial Areas				
4. a) Distance through Commercial Designations	0			
b) Distance through Industrial Designations	.5 km (1 side)			
ACCESS ROADS - REGIONAL FACTORS/INDICATORS				
1. Distance through residential strip development	0	7.0 km Welland	0	.5 km (Welland) *

* within Welland
Municipal Boundary

APPENDIX K

AREA A-1 LAND USE STUDY

PURPOSE

The purpose of this study was to re-examine a large portion of the lands known as Area A-1 from a land use, land use planning and land ownership perspective in order to identify vacant industrially-designated lands and publicly-owned lands for further hydrogeological examination by OWMC. If found suitable, these lands could then be added to the already identified land areas under consideration by OWMC as potential candidate areas for waste treatment and disposal facilities.

Background

The process to select a site(s) for liquid industrial waste treatment and disposal facilities has been organized into 5 phases, each successive phase narrowing the search process to a smaller geographic region. Part way through Phase 3 (at the completion of Phase 3A), OWMC released a Phase 3 Interim Report in May, 1983, which announced the selection of Candidate Areas. Also described in the Interim Report was the manner in which candidate areas were selected.

One of the significant factors leading to the identification of candidate areas during Phase 3A was the hydrogeological conditions of the lands under study. In the Phase 3 Interim Report, an area known as Area A-1 was identified as having the lowest priority in the search process because of its complex and variable soil conditions. Figure 1 identifies the boundaries in Area A-1 in the context of southern Ontario and the selected geographic region identified at the end of Phase 2. In this area, the chances of finding the necessary soil conditions were considered low because of the known widespread occurrence of buried sand at several levels. For these reasons, Area A-1 was initially excluded from further consideration in the search for candidate areas.

Upon completion of the identification of candidate areas (Phase 3A), it was evident that the exclusion of Area A-1 would mean that only small parcels of publicly-owned and industrially-designated land would remain for subsequent analysis. Because OWMC had identified industrially-designated and publicly-owned land as areas of high siting priority, OWMC decided to proceed with a further level of hydrogeological investigation for Area A-1 to maximize the opportunities for identifying candidate sites on non-agricultural land.

Prior to undertaking this further level of hydrogeological investigation, it was decided that a land use study of this area should be undertaken in order to assist in the ultimate goal of maximizing the opportunities for identifying candidate sites on non-agricultural lands, and to identify lands clearly unsuitable for a facility siting from a land use perspective.

The results of the land use study were provided to the hydrogeological consultants to OWMC, Gartner Lee Associates Limited, to assist in their investigation of this area.

The purpose of this appendix is to describe the manner in which this study was undertaken and to present the results of the study.

Study Area

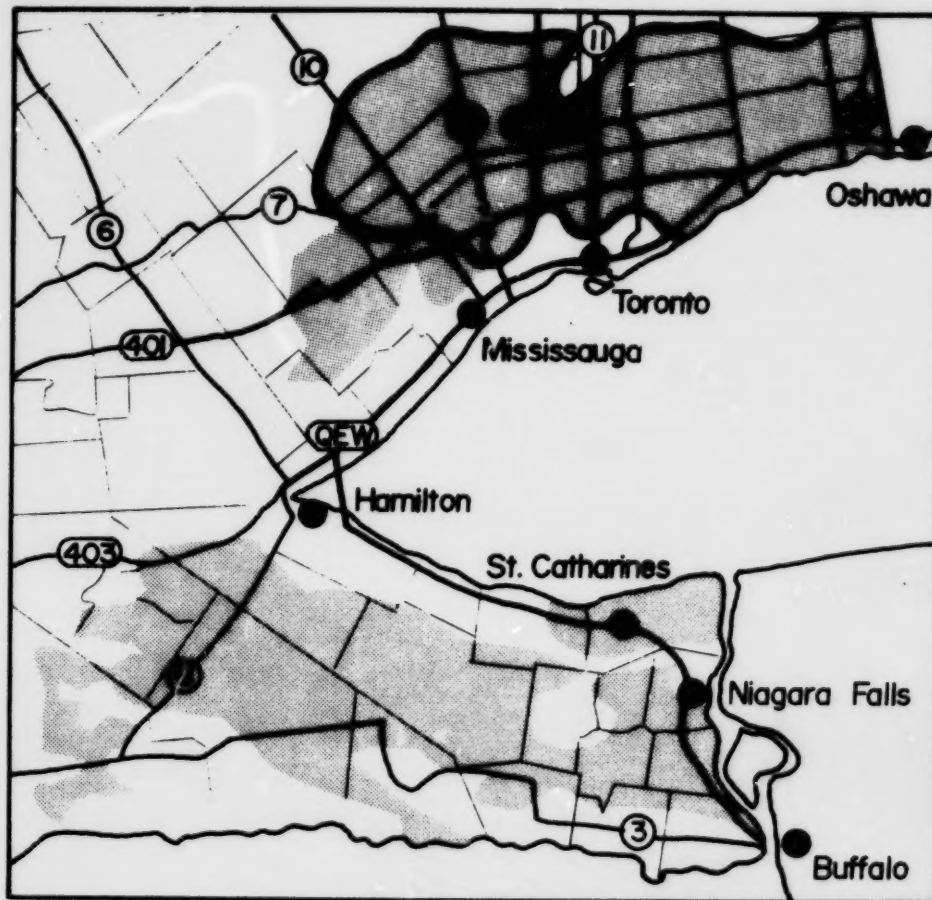
The study area to be examined is "Area A-1" as identified on Map 1 - Areas excluded for any facility components, of the Phase 3 Interim Report, May, 1983, with one exception. Lands located west of a line running along the Etobicoke Creek as far west as Highway No. 10, and then a line connecting this point to the Hamlet of Norval in the Town of Halton, were subsequently excluded from this study area. The exact boundaries of this study area are shown on Figures 2.17 and 2.18 contained in the Technical Data Map Portfolio. Figure 1 shows the boundaries of this study in the context of Southern Ontario, and in relation to the selected geographic region chosen by OWMC at the end of Phase 2 of the site selection process.

This study area was selected by OWMC based upon the recommendations of Gartner Lee Associates Limited.

SCOPE AND OBJECTIVES

Within the Area A-1 study area, the consultants examined the land use, land use planning and land ownership characteristics of the study area from the standpoint of the objectives established for the re-examination of this area. The objectives of this re-examination were:

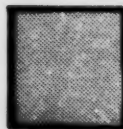
Figure 1



Scale: 1:1,000,000

Boundaries of Area A1 Study Area

Legend



Selected Geographic Region - Golden Horseshoe



Area A1 Study Area



- to maximize the opportunities for identifying candidate sites on non-agricultural (i.e., industrially-designated and/or publicly-owned) land
- to identify lands which are clearly unsuitable for facility siting (i.e., urban built-up areas) from a land use standpoint prior to proceeding with the hydrogeological investigation to serve the dual purpose of making the investigation more efficient and to exclude such lands from a land use standpoint.

Land Use Categories

Based upon these objectives and the overview of the land use, land use planning and land ownership characteristics of the study area, three land use categories were established within which all of the lands under study would fall. These categories were designed in order to allow the hydrogeological consultants to complete the study in an efficient and timely manner.

The three land use categories established are set out below:

1. Built-up areas, lands for future residential uses, and other unsuitable areas which should not be examined.

As indicated in the heading, this category included all lands which should not be re-examined because these lands would clearly be unsuitable for a facility siting from a land use perspective. This category included the following land uses:

- Urban built-up areas. These are areas where the location of facilities would probably require a displacement of existing land uses and residents. Concerns over the population levels in these locations, the resulting perceived threats to human health and safety, and the land use conflicts which would arise, led to the exclusion of these areas during the identification of candidate areas during Phase 3A. The same method and analysis was used at this time as was used during Phase 3A when these areas were identified.

- . Lands designated for future residential uses. In order to conform as much as possible to the planning policies of local and regional municipalities and to avoid facility siting on lands which are proposed to be developed for residential purposes, lands designated for future residential uses in local official plans were also excluded from re-examination. These areas were excluded because of the incompatibility between residential uses and the proposed facility siting.
 - . Other lands deemed to be unsuitable for a facility siting. This category was used on a site by site basis in order to incorporate existing and future land uses which are clearly unsuitable for facility siting. Examples of land uses included in this category are other designated land uses in official plans (i.e., commercial, institutional, etc.) golf courses, conservation areas, airports, other institutional uses such as schools, colleges, which are not part of an urban built-up area, railway yards and utilities, etc.
- 2. Vacant industrially-designated lands, or publicly-owned lands - first priority for examination.**
- This category includes the two types of land which are being sought by this study. The two categories are described below:
- . Vacant industrially-designated land. These are lands which are designated for industrial land uses and which are either vacant or currently being used for agricultural purposes. These lands have been identified because of OWMC's stated preference for locating facilities on these lands due to the industrial nature of the facilities. This category excludes lands which are already developed for industrial purposes.
 - . Publicly-owned lands. This category includes all publicly-owned lands identified through consultation with public agencies. No attempt was made to distinguish between lands which may be vacant, available or declared surplus by the public agency.

3. Other private, non-industrial lands - second priority for examination.

This category represents all lands remaining within the study area when the urban built-up areas and vacant industrially-designated lands and publicly-owned lands are excluded. These lands have not been excluded from re-examination, but do represent the second priority area for this re-examination, because they would not fulfill the primary aim of the study which is to locate hydrogeologically suitable lands which are industrially-designated (and vacant) or publicly-owned.

Essentially the lands within the category are rural, agricultural or vacant.

METHODOLOGY

With the establishment of these three land use categories, it remained to develop a method for the mapping of this information.

Base mapping at a scale of 1:50000 was selected to map this information given the size of the study area involved and the nature of the information to be mapped. This scale of mapping was also consistent with that used in the initial stages of Phase 3B of the site selection process.

The data source employed and the manner in which each category was mapped are described below.

Built-up areas in the study area were delineated through interpretation of 1:30000 scale aerial photography available through the Ontario Ministry of Natural Resources. Two series of aerial photographs provided coverage of the study area as follows:

- . an area photographed in 1982 roughly coinciding with the Regional Municipalities of York, Peel, Halton, Hamilton-Wentworth and the Municipality of Metropolitan Toronto
- . an area photographed in 1979 roughly coinciding with the Regional Municipality of Durham

Where there was an overlap between these series of photographs, the most up-to-date photography was used.

The data derived from these aerial photographs were also checked against two additional sources due to the discrepancies in dates of the photography and the obsolete nature of photography covering the Region of Durham. First, 1:50000 base map information showing land use development was also utilized. Second, field investigations were undertaken in areas where there was any doubt concerning the nature or extent of existing land uses.

In mapping built-up areas, it is clear that a minimum size of area would have to be established due to the scattered nature of much urban development in rural areas. It was therefore decided that only built-up areas located within appropriate land use designations in local official plans would be mapped.

Future residential lands were mapped from residential designations in local official plans and approved amendments for plans of subdivisions which are not yet built. Similarly, industrially-designated lands were also mapped from local official plans and amendments, and the portions of these designations which are vacant and which are built upon were determined through the combined examination of aerial photography and field investigations described earlier. Generally, one line was drawn between developed and undeveloped lands. When in doubt, or when only small pockets of land were developed with single buildings, these were included in vacant land holdings.

Other lands considered unsuitable for a facility siting were determined through the methods described above for both existing and future uses. This was undertaken on a site specific basis and included the following:

- . official plan designations which would not be compatible with the proposed facility, i.e., commercial, institutional, etc.
- . existing uses such as the following - golf courses, conservation areas, railway yards, etc., which would also preclude a facility siting.

Publicly-owned lands were determined through data gathered during previous consultations with public agencies during the Phase 3A stage of work.

Publicly held lands in excess of 20 hectares have been identified and mapped based upon information received from various provincial and federal agencies.

The data sources employed were as follows:

- . The Ontario Ministry of Government Services (M.G.S.) provided a computer print out of provincially-owned lands.
- . Ontario Hydro surplus land holdings.
- . Ontario Ministry of Transportation and Communications surplus land holdings.
- . Ontario Land Corporation land assemblies list/mapping.
- . The federal government's Central Real Property Inventory List.

Land holdings of other federal and provincial crown corporations, municipalities and other public agencies (such as Conservation Authorities) were not included. They could not be obtained in the time available.

DATA LIMITATIONS

Significant data limitations were evident as this study progressed, partially as a result of the sources of the data and partially because of restrictions within the terms of reference of the study.

First, the use of local official plans and amendments as a primary source of land use and planning data places some uncertainty on the current status of land use designations since these plans are subject to amendment or appeal at any time. Furthermore, several municipalities within the study area are currently involved in comprehensive reviews of their official plans. This has meant in

several cases that draft official plans have been prepared by the municipality which are not yet approved by the Ministry of Municipal Affairs and Housing. In some cases, it was necessary to choose between an approved official plan, which may be out of date in terms of municipal policies and intentions, and a draft or unapproved official plan which would be more up-to-date in terms of municipal policies. Where this situation arose, the draft Official Plan was utilized to reflect current planning policy directions.

In addition, OWMC required that the consultants not contact the municipalities involved. This precluded meeting with municipal planning staff in order to precisely determine the status of official plans, amendments or comprehensive reviews of official plans or other planning initiatives which may affect this study. This was a significant limitation on the data which were used. It also meant that the consultants had to rely upon official plan documents currently in their possession, and upon their own judgment with respect to the interpretation and use of these documents. In cases where doubt existed as to the status of land use designations or policies, the affected areas were retained for further study.

Further limitations were placed on public land ownership information. Only partial listings of provincial land holdings were obtained in the available time and no information was available on municipal land holdings as time limitations and OWMC directives did not permit the extensive meeting schedule which would have been required to collect these data. Data received from the Ontario Ministry of Government Services and Ontario Hydro did not include parcels smaller in size than 20 hectares.

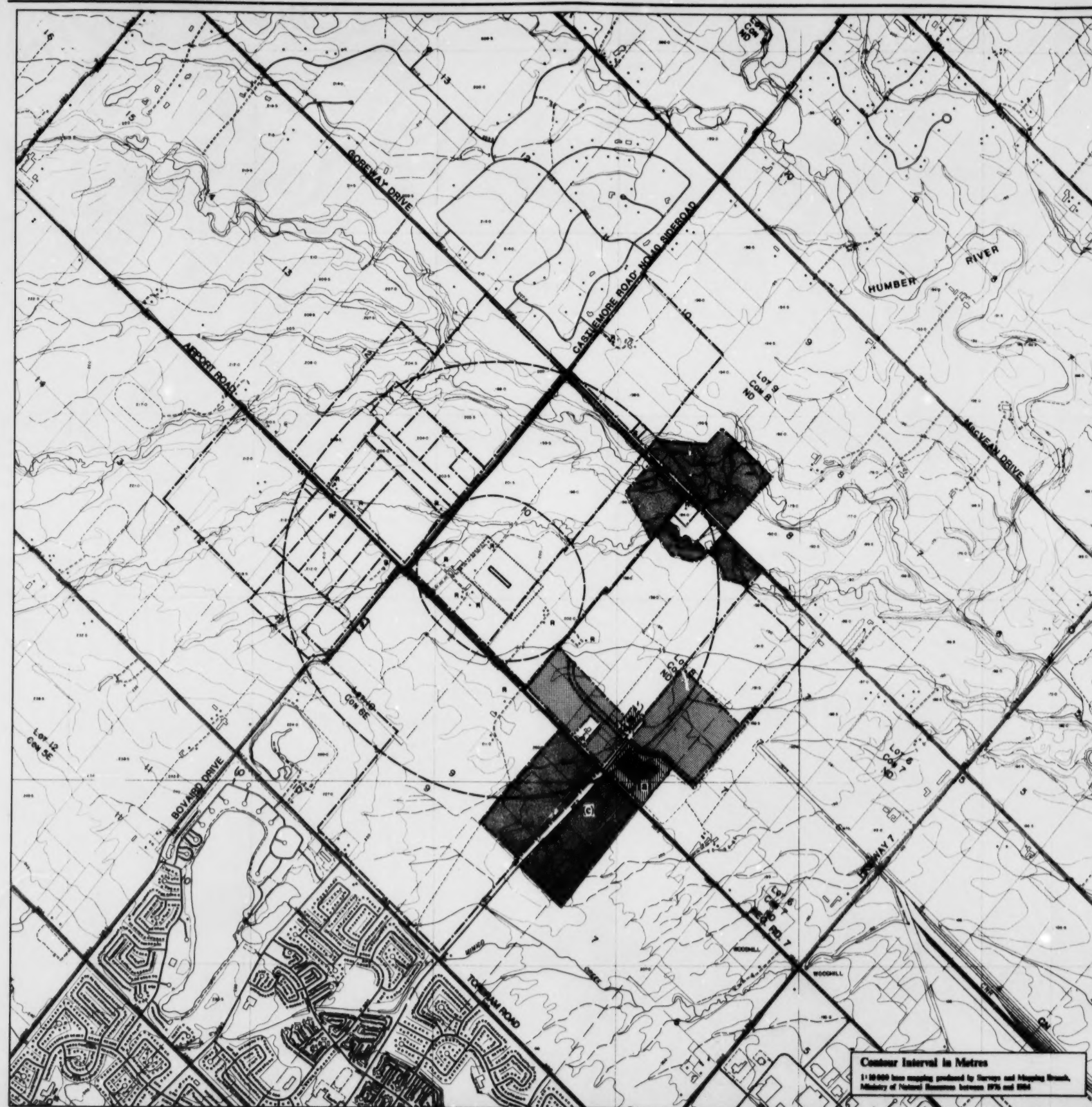
CONCLUSIONS

Maps K-1 and K-2 in the Technical Data Map Portfolio, submitted under separate cover from the Phase 3 Technical Report, present the results of the Area A-1 Land Use Study.

It is recommended that the boundaries shown on these maps be utilized for the hydrogeological re-examination of the study area in accordance with the significance of each land use category discussed in this report.

APPENDIX L

**IDENTIFICATION OF CANDIDATE SITES
POTENTIAL SITE MAPS**



OWMC Ontario Waste Management Corporation

Consultant:
 Marshall Mecklin Monaghan Limited
 LEON KENTRIDGE ASSOCIATES LTD.

Legend:

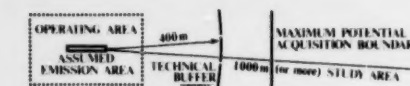
Existing Land Use

- Residential Use
- Farm Residence
- Commercial Use
- Industrial Use / with Building
- Notation

Land Ownership

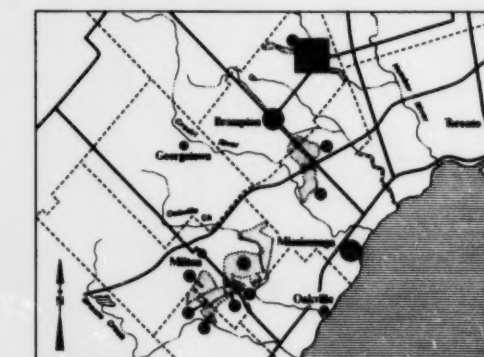
- Property Boundary
- Publicly Held Lands
- Registered and Serviced Industrial Subdivision

- (a) Motorola/ESE Ltd. Industrial Plant (27 685 sq.m.)
- (b) Small 1 Storey Industrial Plant (1207 sq.m.)
- (c) City of Brampton Works Yard



Key Map: PI-1A1

Lot 10 and Part of Lot 9; Concession VII; City of Brampton, formerly the Toronto Gore



Sources

Property boundary information derived from the City of Brampton Planning Department Maps 1983. This information is not necessarily current and should not be accepted as conclusive to title or the extent of title to these lands.



Existing Land Use and Land Ownership
CANDIDATE SITE IDENTIFICATION

October 1984

MAP K-20



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Existing Land Use

- Residential Use
- Commercial Use
- Industrial Use
- Notation

Land Ownership

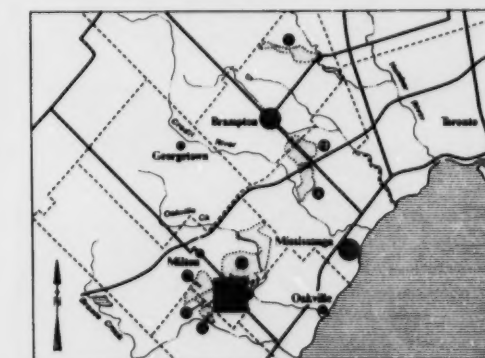
- Property Boundary
- Publicly Held Lands

- (a) Airfield
- (b) Nursery

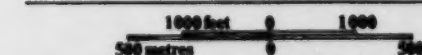


Key Map: PI-1 North

Lots 3, 4 and 5; Concession 11; Town of Milton; Parts of Lots 3, 4 and 5; Concession 1; Town of Milton, formerly in the Township of Trafalgar

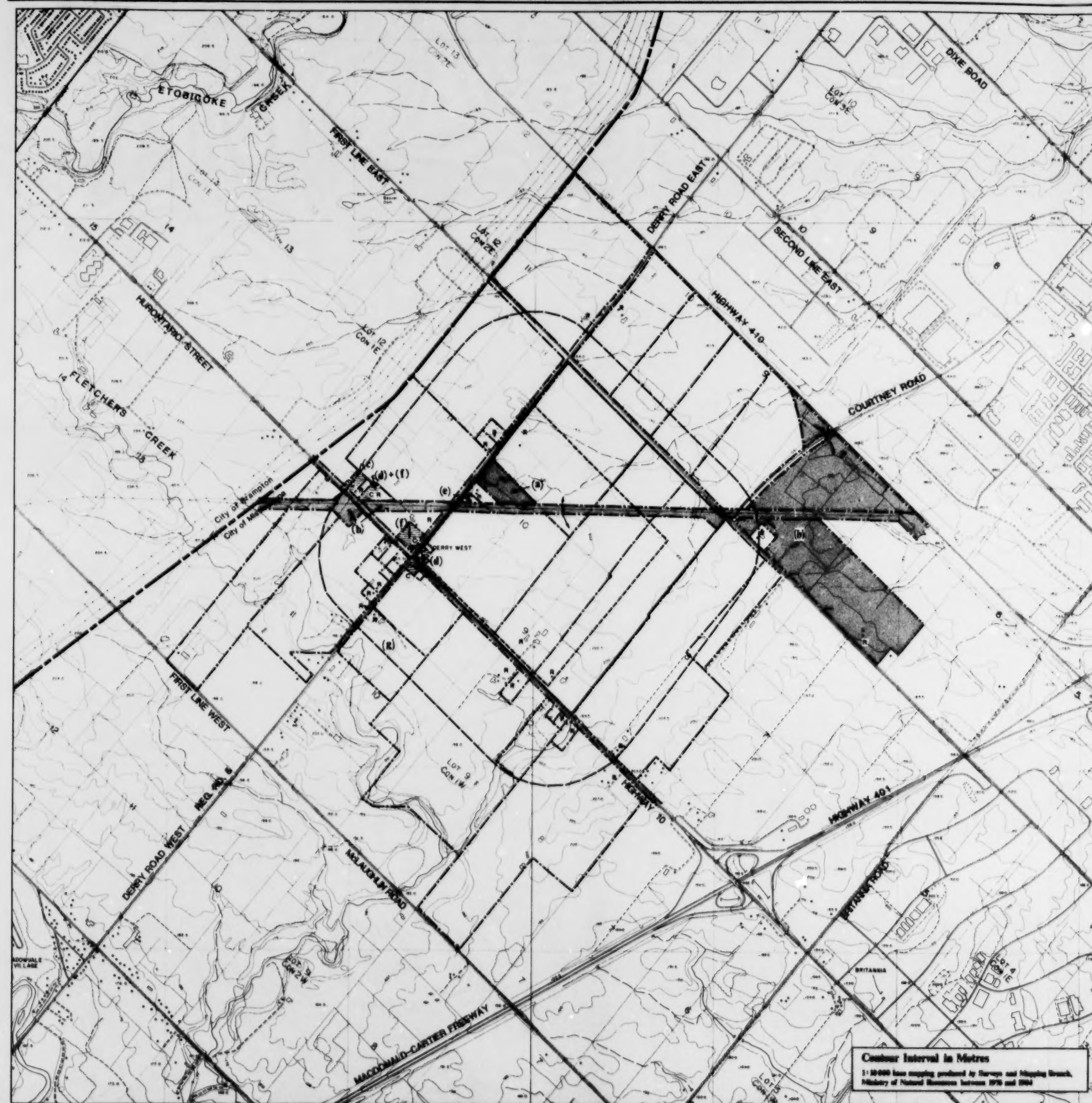


Sources
 Property boundary information derived from the Town of Milton Assessment Maps Dec. 1972 and May 1979 Planning Dept. Map. This information is not necessarily current and should not be accepted as conclusive to title or the extent of title to these lands.



**Existing Land Use and Land Ownership
 CANDIDATE SITE IDENTIFICATION**

October 1984 **MAP K-21**



OWMC Ontario Waste Management Corporation

Consultant:
 Marshall Mecklin Monaghan Limited
 LEON KENTRIDGE ASSOCIATES LTD.

Legend:

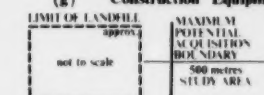
Existing Land Use

- * Residential Use
- Commercial Use
- Industrial Use
- (a) Notation

Land Ownership

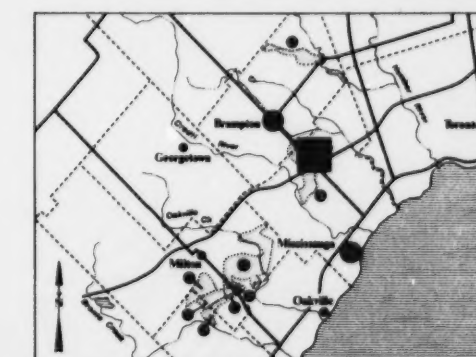
- Property Boundary
- Publicly Held Lands

- (a) Region of Peel Public Works
- (b) Ontario Hydro
- (c) Fruit Market
- (d) Gas Station
- (e) Construction Storage Yards
- (f) Restaurant
- (g) Construction Equipment Storage



Key Map: LF-2 North

Lots 9 and 10; Concession 1 EHS (East of Hurontario Street), City of Mississauga



Sources

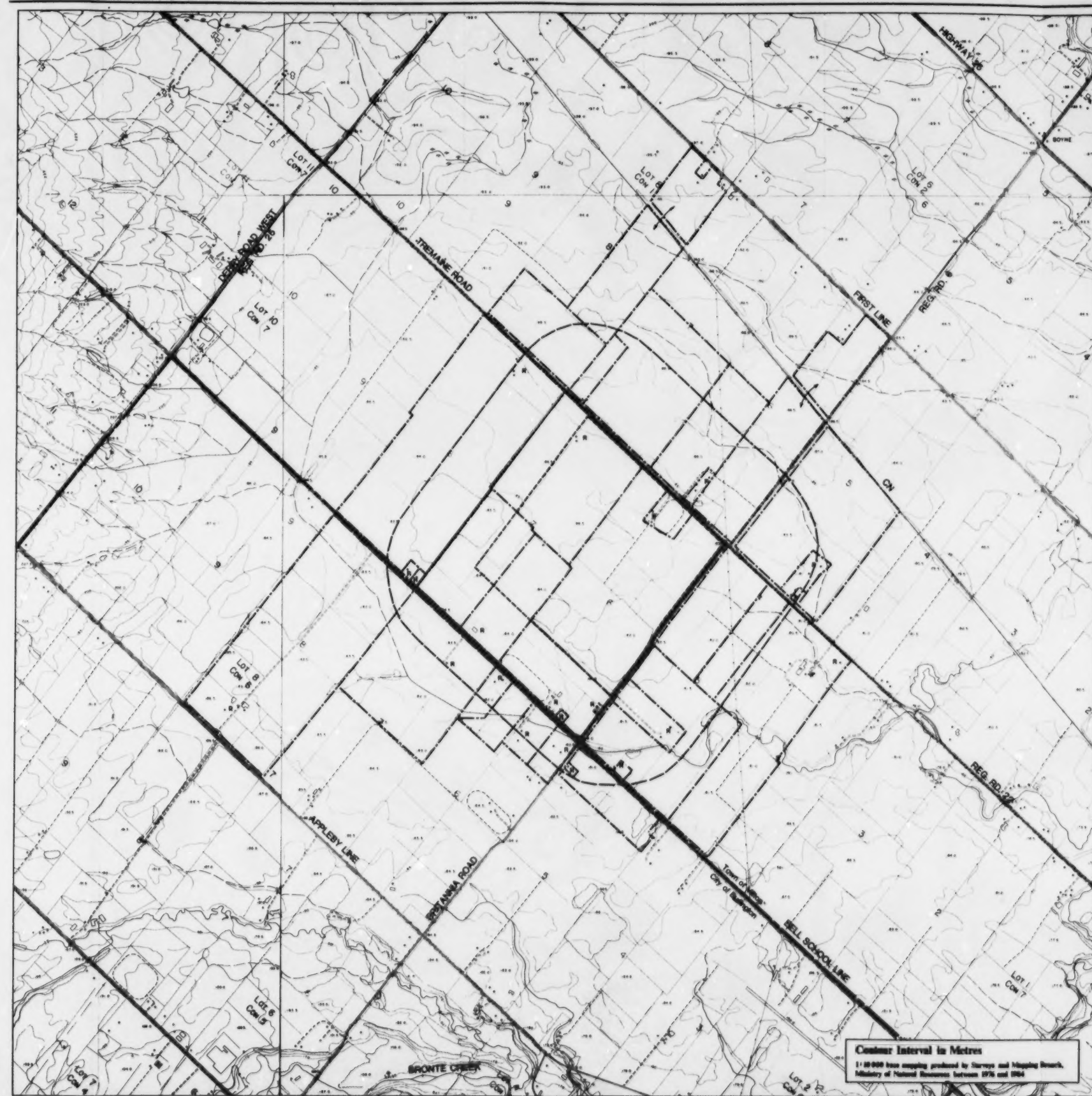
Property boundary information derived from the Assessment Rolls, Ministry of Revenue (June 1984)



Existing Land Use and Land Ownership
CANDIDATE SITE IDENTIFICATION

October 1984

MAP K-22



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Existing Land Use

- Residential Use
- Commercial Use
- Industrial Use
- Notation

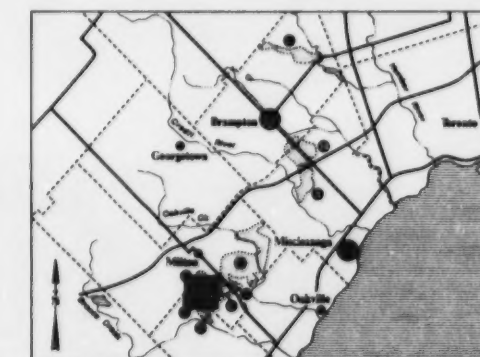
Land Ownership

- Property Boundary
- Publicly Held Lands

UNITED STATES OF AMERICA
 not to scale
 MAXIMUM POTENTIAL
 QUANTITIES
 BOUNDARY
 500 m S.T.D. A.D. 1976

Key Map: **LF- 4 North**

Lots 6 and 7; Concession VII; Town of Milton, formerly in the Township of Nelson



Sources

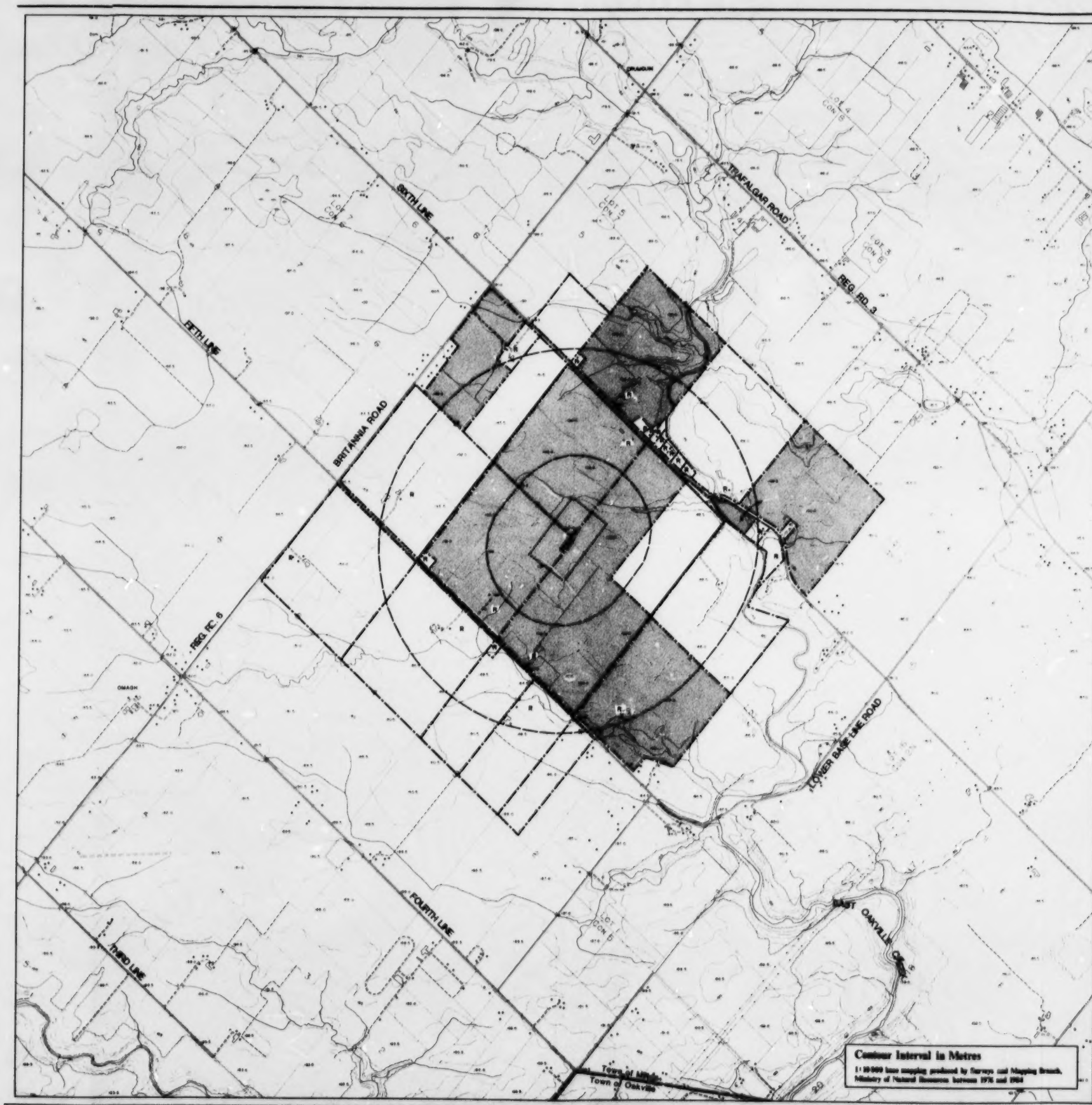
Property boundary information derived from the Assessment Rolls, Ministry of Revenue (June 1984)

1000 feet
 500 metres

Existing Land Use and Land Ownership
CANDIDATE SITE IDENTIFICATION

October 1984

MAP K-23



OWMC Ontario Waste Management Corporation

Consultant:
Marshall Macklin Monaghan Limited
LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Existing Land Use

- Residential Use
- Commercial Use
- Industrial Use
- Notation

Land Ownership

- Property Boundary
- Publicly Held Lands



Key Map: **PI-13 North**

Lots 3 and 4; Concession VI; Town of Milton,
formerly the Township of Trafalgar



Property boundary information derived from the
Assessment Rolls, Ministry of Revenue
(June 1984)



**Existing Land Use and
Land Ownership
CANDIDATE SITE
IDENTIFICATION**

October 1984

MAP K-24



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Existing Land Use

- Residential Use
- Commercial Use
- Industrial Use
- Notation

Land Ownership

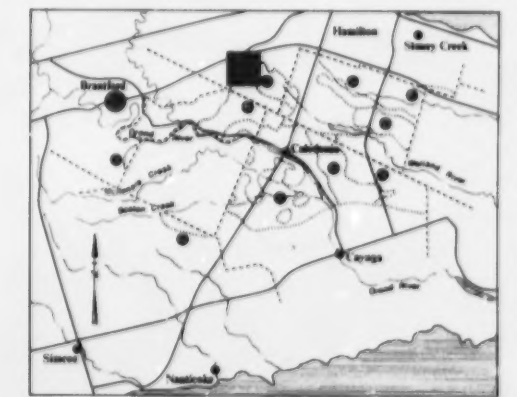
- Property Boundary
- Publicly Held Lands

- (a) Canadian Institute of Metallurgy
- (b) Gas Station
- (c) Restaurant
- (d) Furniture Store



Key Map: PI-2 West

Part of Lots 34, 35 and 36; Concession IV;
 Town of Ancaster



Sources

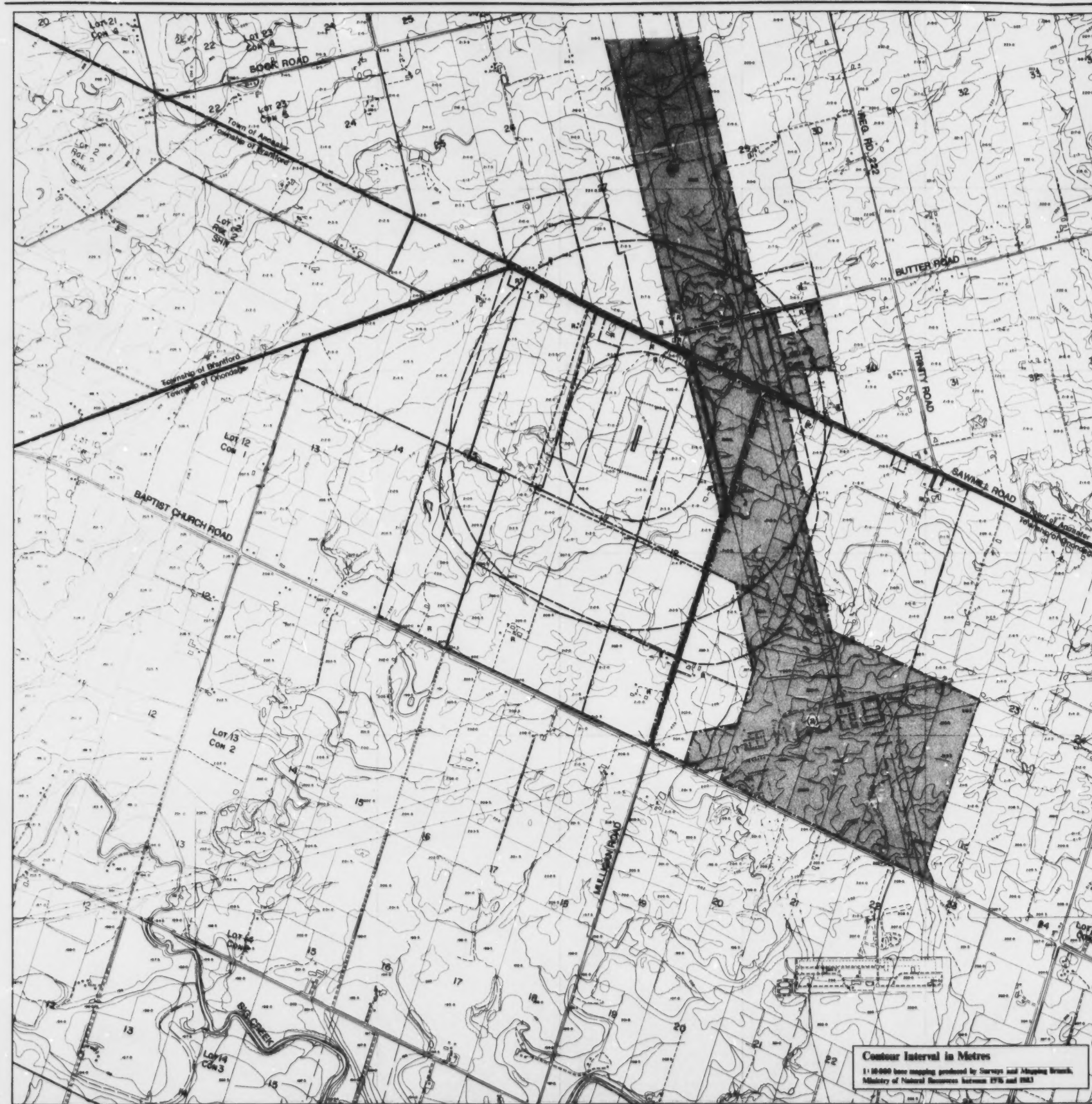
Property boundary information derived from the Town of Ancaster Assessment Maps 1983. This information is not necessarily current and should not be accepted as conclusive to title or the extent of title to these lands.



Existing Land Use and Land Ownership
CANDIDATE SITE IDENTIFICATION

October 1984

MAP K-25



OWMC Ontario Waste Management Corporation

Consultant:

M Marshall Macklin Monaghan Limited

L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Existing Land Use

- Residential Use
- Commercial Use
- Industrial Use
- Notation

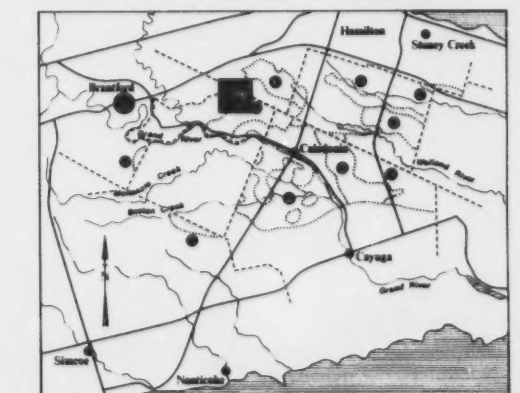
Land Ownership

- Property Boundary
- Publicly Held Lands

- (a) Middleport Hydro Transformer Station

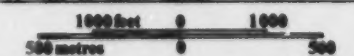


Key Map: **LF-10a West**
 Lots 16, 17 and Part of Lots 15 and 18;
 Concession I; Township of Onondaga



Sources

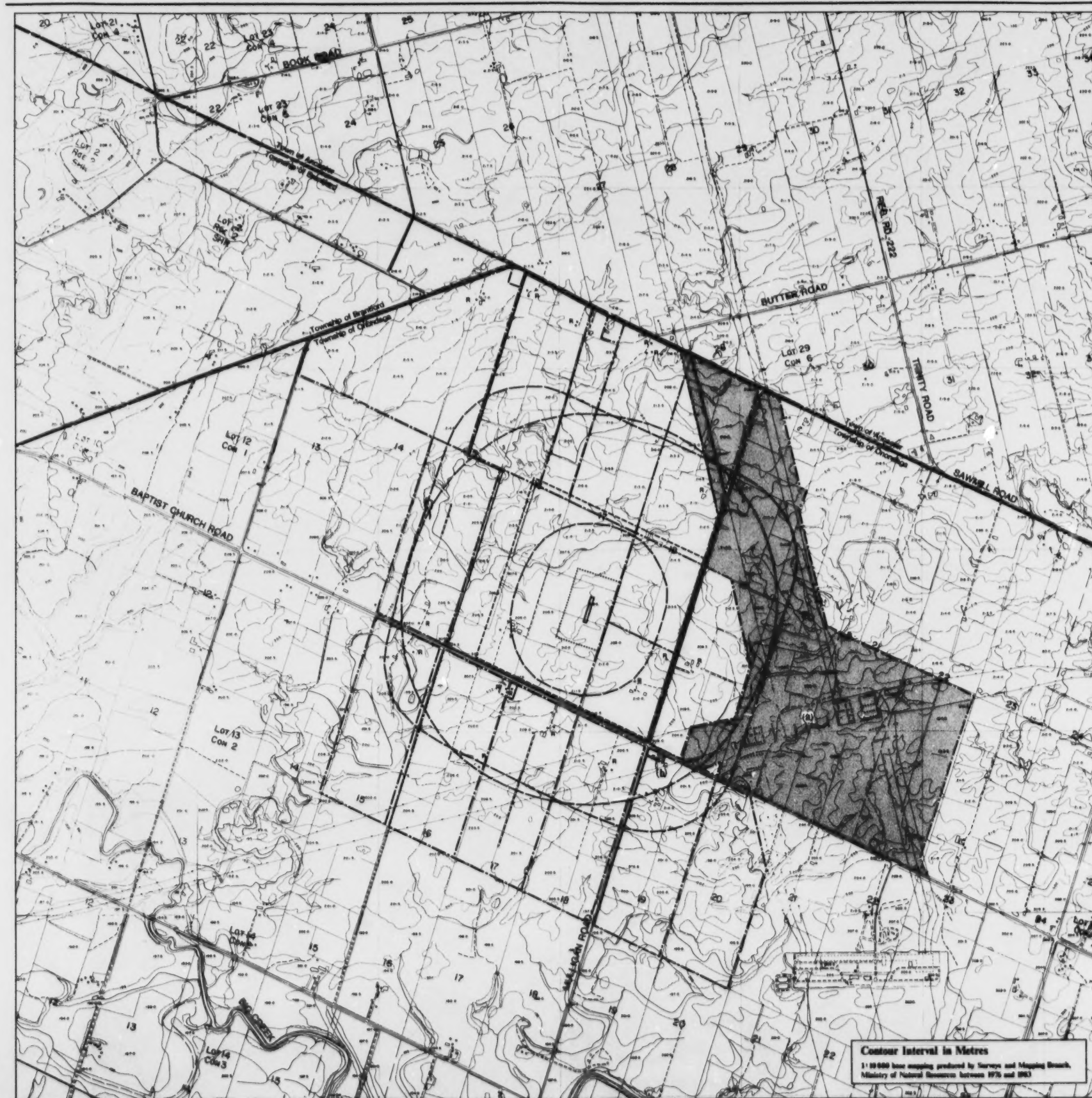
Property boundary information derived from the Onondaga Local Township Assessment Maps 1978. This information is not necessarily current and should not be accepted as conclusive to title or the extent of title to these lands.



Existing Land Use and Land Ownership
CANDIDATE SITE IDENTIFICATION

October 1984

MAP K-26

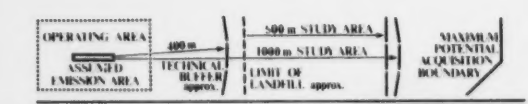


OWMC Ontario Waste Management Corporation

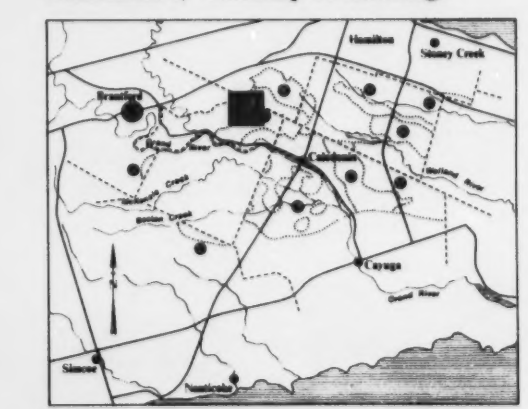
Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTIDGE ASSOCIATES LTD.

Legend:

- Existing Land Use**
- Residential Use
 - ▨ Commercial Use
 - ▨ Industrial Use
 - (a) Notation
- Land Ownership**
- Property Boundary
 - ▨ Publicly Held Lands
 - (a) Middleport Hydro Transformer Station
 - (b) Auto Repair



Key Map: LF-10b West
 Lots 16, 17 and Part of Lots 15 and 18;
 Concession 1; Township of Onondaga

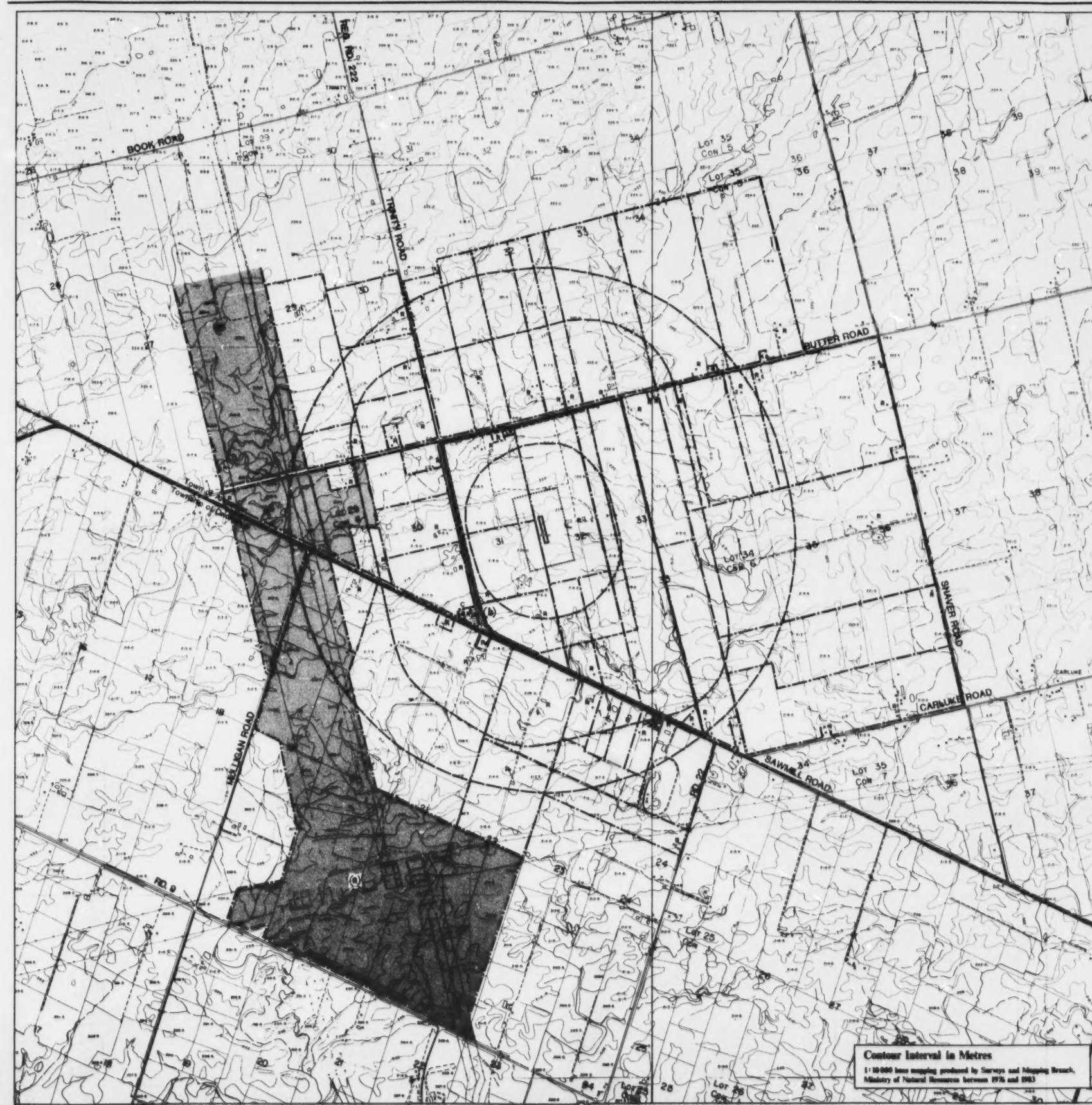


Sources
 Property boundary information derived from the Onondaga Local Township Assessment Maps 1978. This information is not necessarily current and should not be accepted as conclusive to title or the extent of title to these lands.



Existing Land Use and Land Ownership
CANDIDATE SITE IDENTIFICATION

October 1984 **MAP K-27**



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

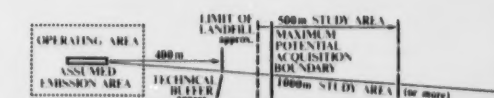
Legend:

Existing Land Use

- Residential Use
- Commercial Use
- Industrial Use
- Notation

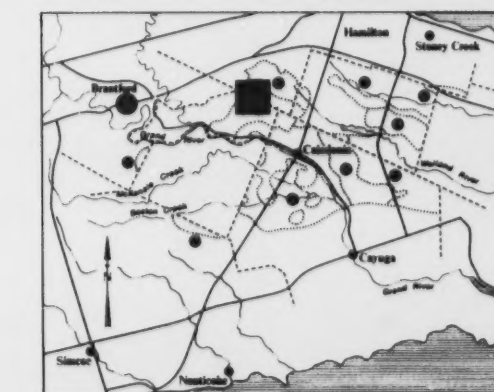
Land Ownership

- Property Boundary
- Publicly Held Lands
- (a) Middleport Hydro Transformer Station
- (b) Kennel



Key Map: LF-11 West

Lots 31, 32 and Part of Lot 33,
 Concession VI; Town of Ancaster



Sources

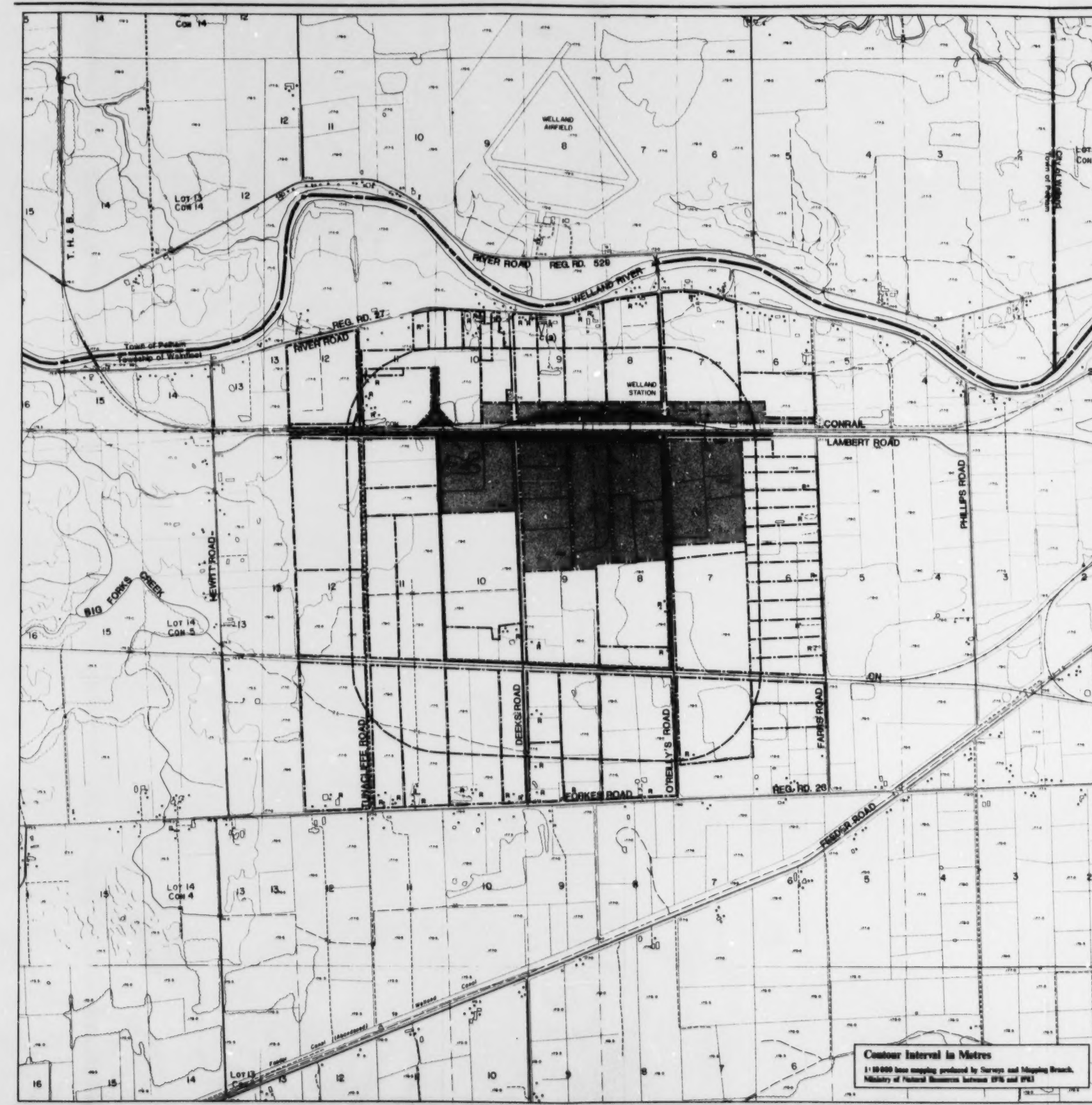
Property boundary information derived from the Town of Ancaster Assessment Maps May 1979. This information is not necessarily current and should not be accepted as conclusive to title or the extent of title to these lands.



Existing Land Use and Land Ownership CANDIDATE SITE IDENTIFICATION

October 1984

MAP K-28



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Mecklin Monaghan Limited
LEON KENTRIDGE ASSOCIATES LTD.

Legend:

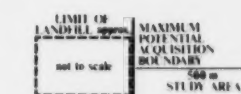
Existing Land Use

- Residential Use
- Commercial Use
- Industrial Use
- Notation

Land Ownership

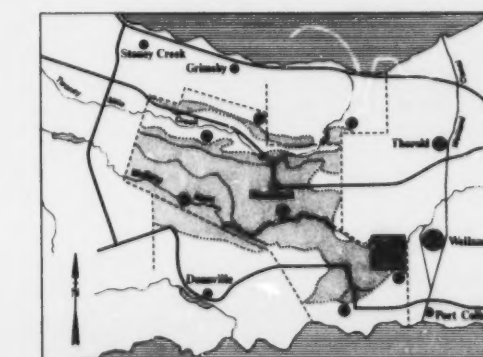
- Property Boundary
- Publicly Held Lands

(a) McCollum McGowan Construction Ltd.



Key Map: **LF-1 Central**

Part of Lots 8, 9, and 10; Concession V;
 Township of Wainfleet



Sources

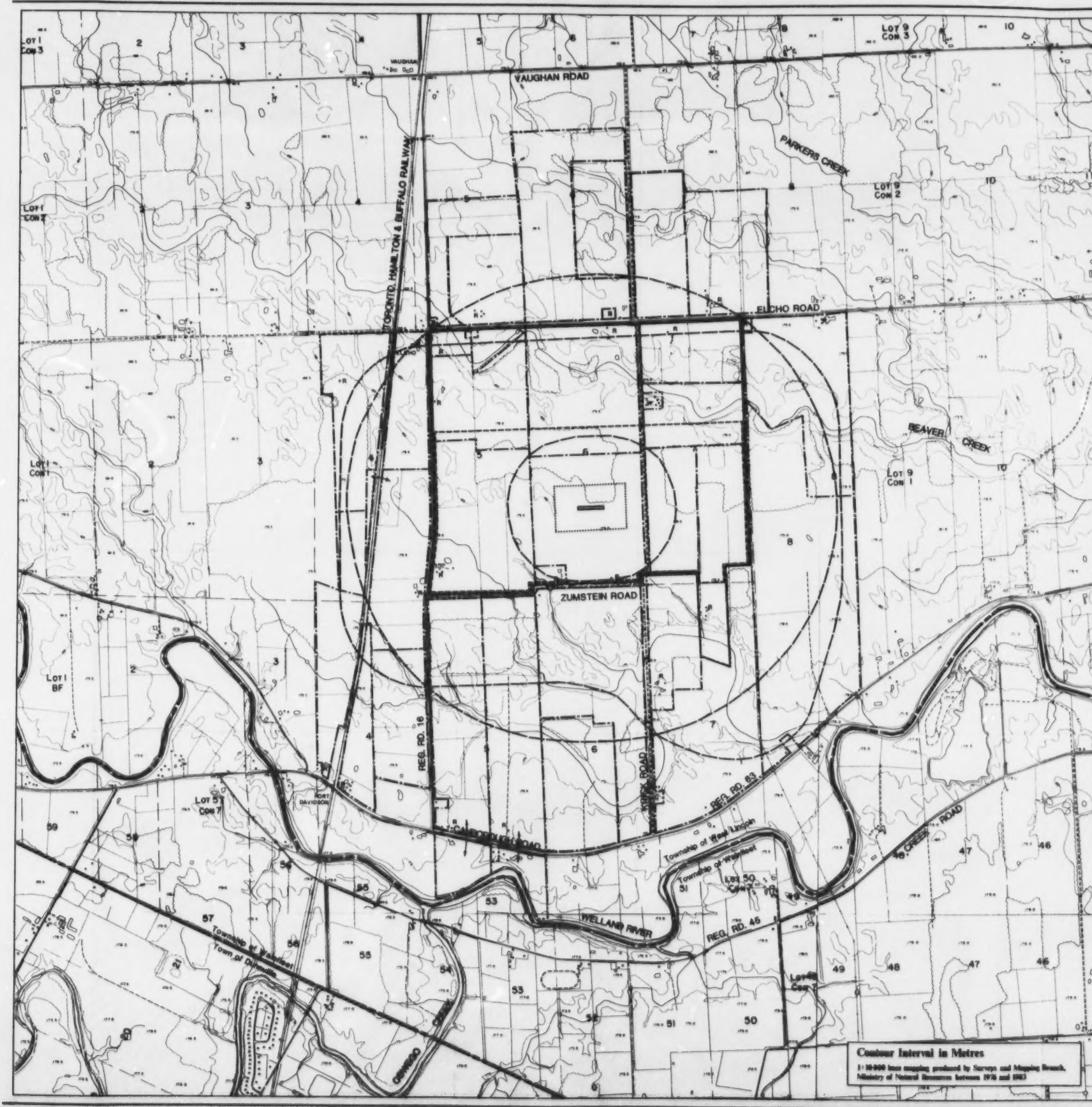
Property boundary information derived from the Township of Wainfleet Assessment Maps 1979. This information is not necessarily current and should not be accepted as conclusive to title or the extent of title to these lands.



**Existing Land Use and
 Land Ownership
 CANDIDATE SITE
 IDENTIFICATION**

October 1984

MAP K-29



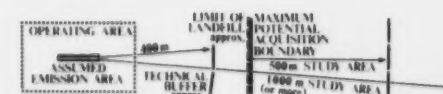
OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

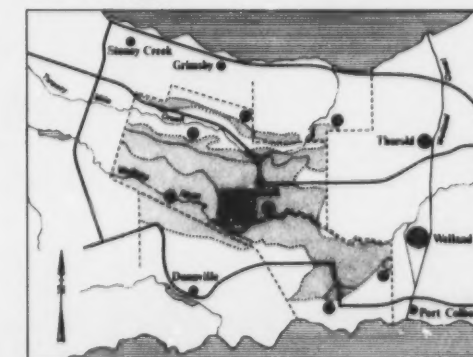
Existing Land Use
 n Residential Use
 [hatched] Commercial Use
 [hatched] Industrial Use
 (a) Notation

Land Ownership
 --- Property Boundary
 [shaded] Publicly Held Lands



Key Map: LF-3Central

Lots 5, 6 and 7; Concession 1; Part of Lot 7; Broken Front Concession; Township of West Lincoln; formerly in the Township of Gainsborough



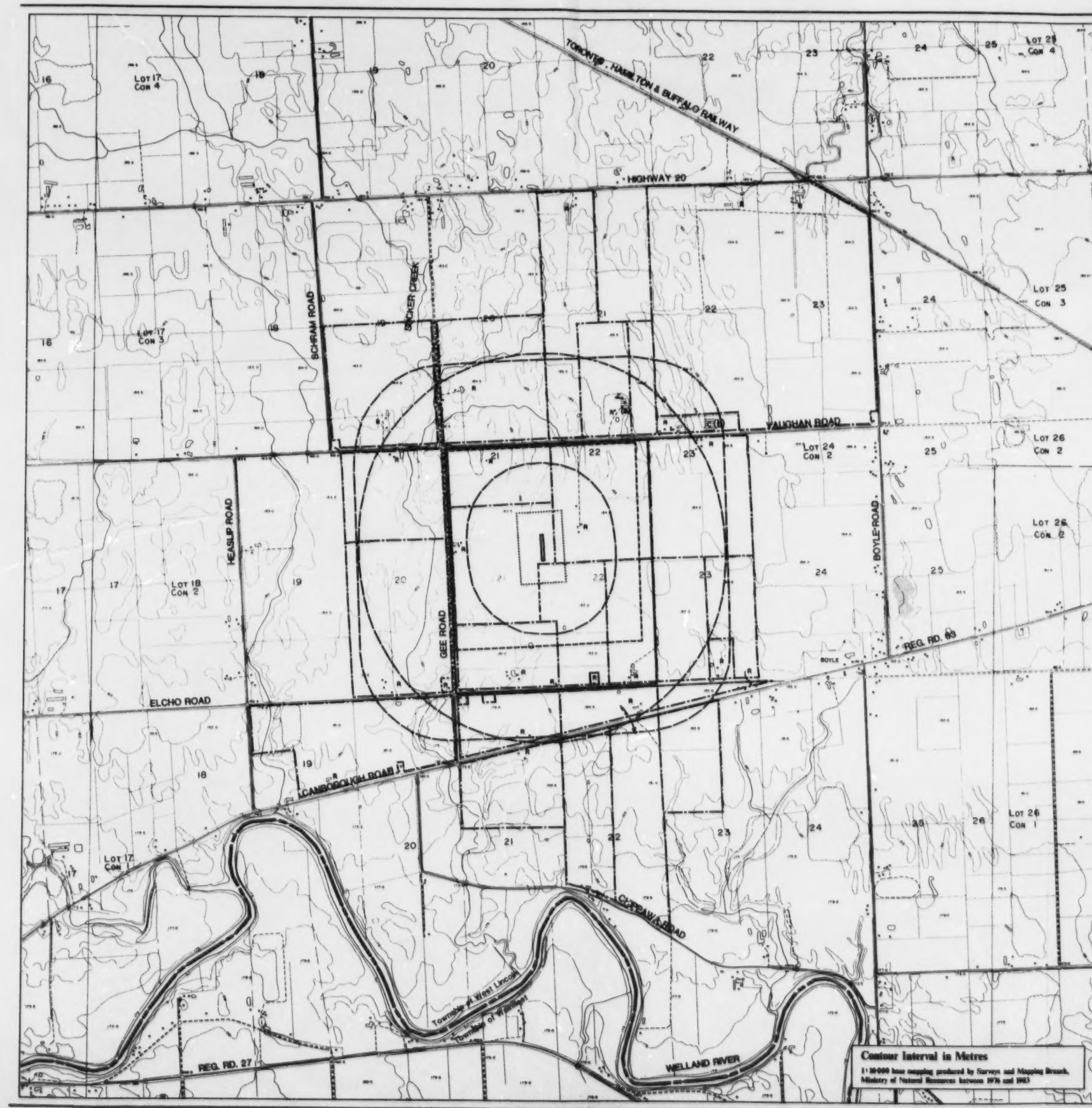
Sources
 Property boundary information derived from the Assessment Rolls, Ministry of Revenue June 1984



Existing Land Use and Land Ownership CANDIDATE SITE IDENTIFICATION

October 1984

MAP K-30



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Mecklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Existing Land Use

- * Residential Use
- Commercial Use
- ▨ Industrial Use
- (a) Notation

Land Ownership

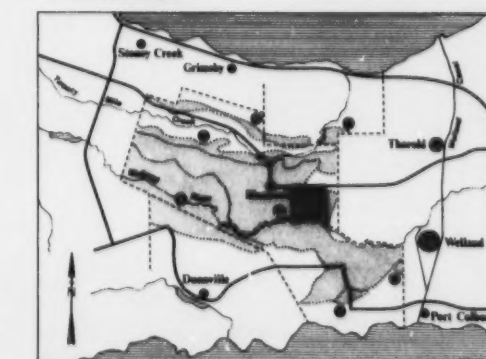
- Property Boundary
- Publicly Held Lands

- (a) Swimming Pool Service
- (b) Vacant Gas Station



Key Map: LF-8 Central

Lots 21 and 22; Concession 11; Township of West Lincoln; formerly in the Township of Gainsborough



Sources

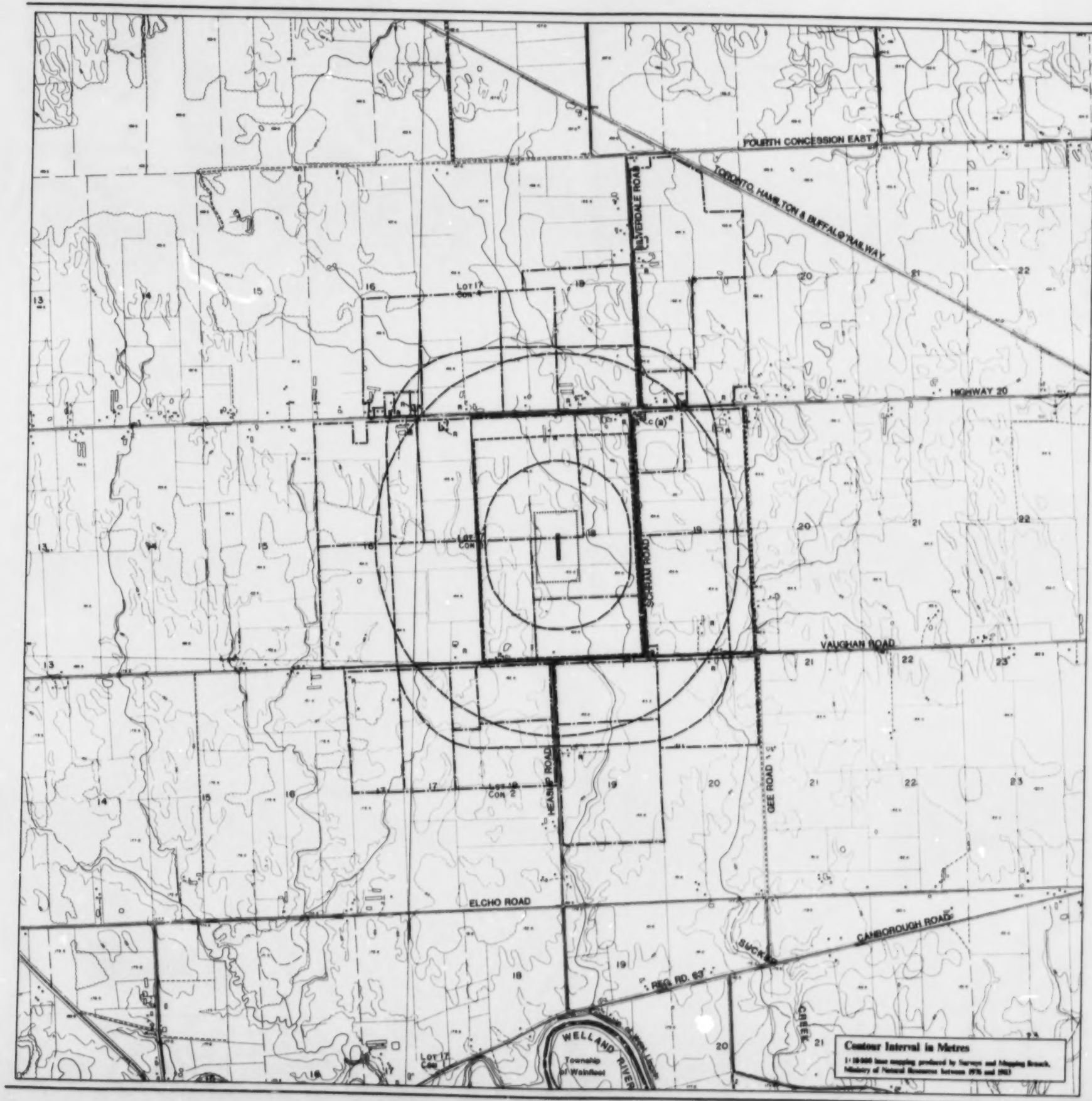
Property boundary information derived from the West Lincoln Township Assessment Maps 1978. This information is not necessarily current and should not be accepted as conclusive to title or the extent of title to these lands.



**Existing Land Use and Land Ownership
 CANDIDATE SITE IDENTIFICATION**

October 1984

MAP K-31



OWMC Ontario Waste Management Corporation

Consultant:

Marshall Macklin Monaghan Limited

LEON KENTRIDGE ASSOCIATES LTD.

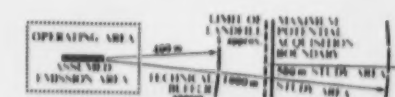
Legend:

Existing Land Use

- Residential Use
- Commercial Use
- Industrial Use
- Notation

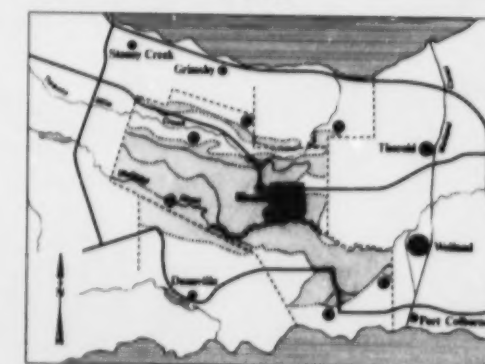
Land Ownership

- Property Boundary
- Publicly Held Lands
- Vacant Store / Gas Station



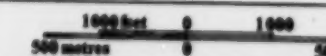
Key Map: LF-9 Central

Lot 18 and Part of Lot 17; Concession III;
Township of West Lincoln; formerly in the
Township of Gainsborough



Sources

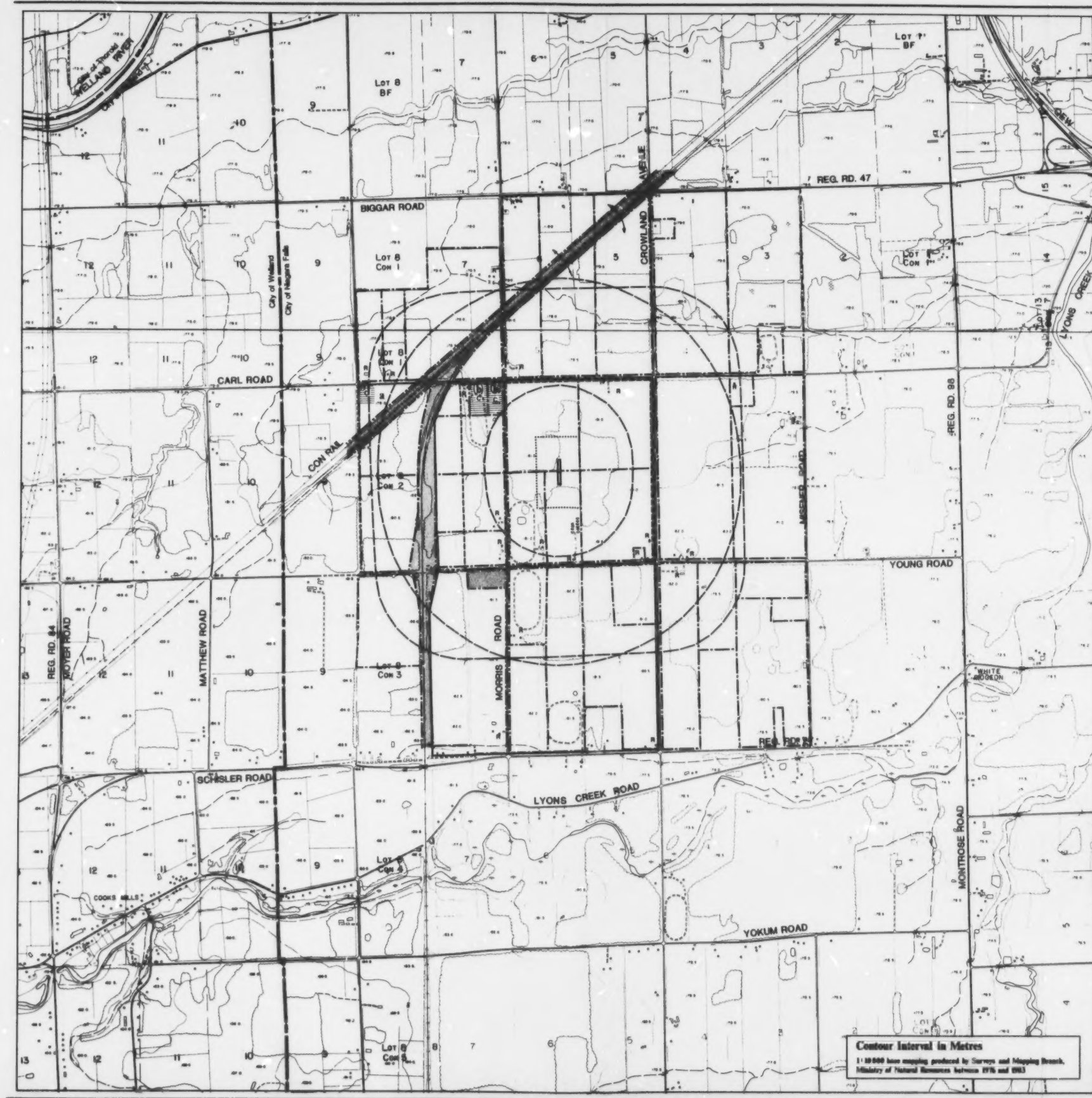
Property boundary information derived from the
Assessment Rolls, Ministry of Revenue
(June 1984)



**Existing Land Use and
Land Ownership
CANDIDATE SITE
IDENTIFICATION**

October 1984

MAP K-32



OWMC Ontario
Waste Management
Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Existing Land Use

- Residential Use
- Commercial Use
- Industrial Use
- (a) Notation

Land Ownership

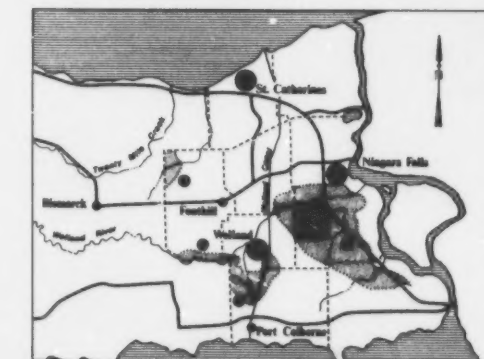
- Property Boundary
- Publicly Held Lands

- (a) Commercial Building (for sale)
- (b) Frontier Auto Dismantlers



Key Map: LF-1a East

Lots 5, 6 and 7; Concessions II and III;
City of Niagara Falls; formerly in the
Township of Crowland



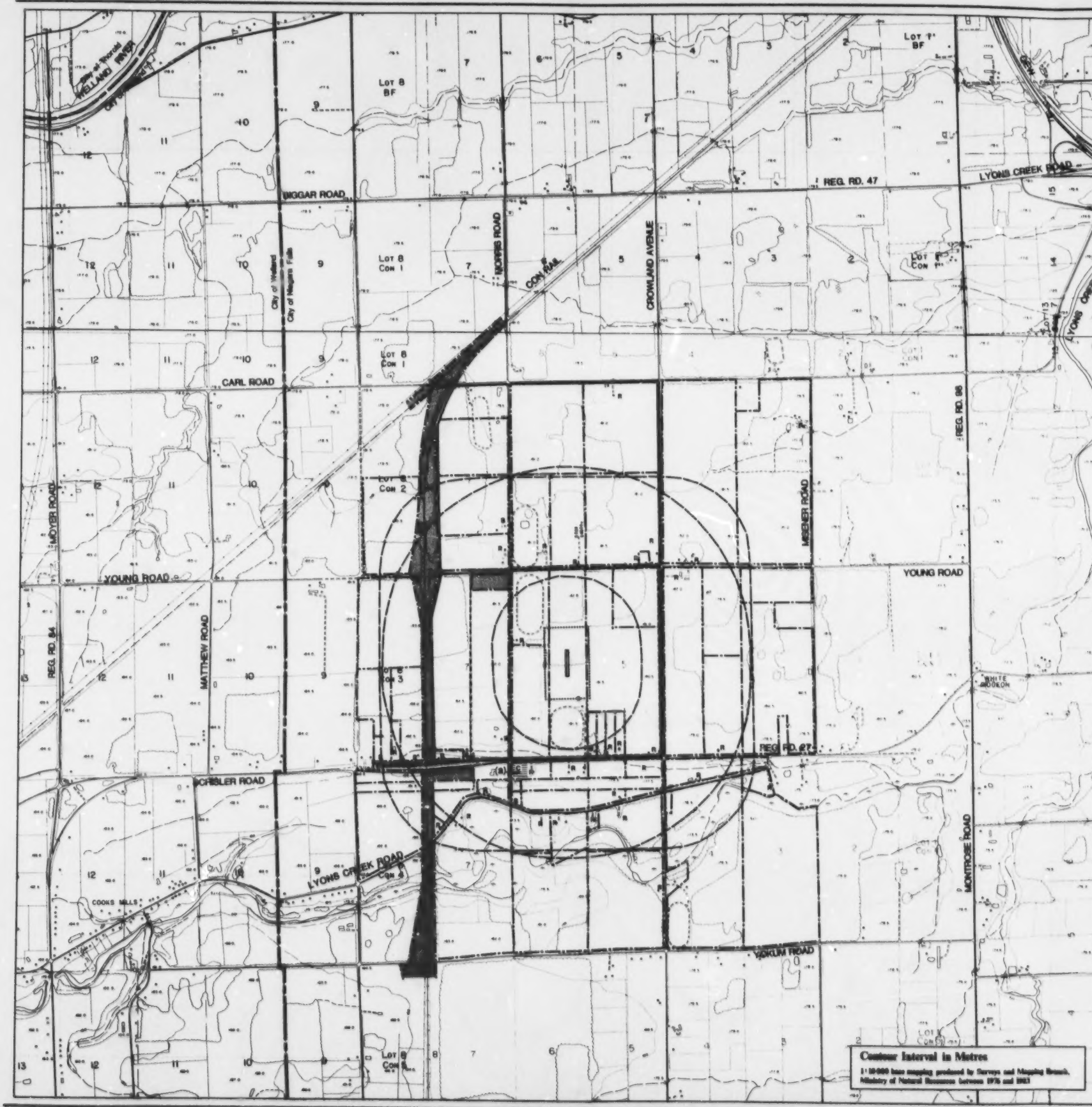
Sources
Property boundary information derived from the
Assessment Rolls, Ministry of Revenue
(June 1984)



Existing Land Use and
Land Ownership
**CANDIDATE SITE
IDENTIFICATION**

October 1984

MAP K33



OWMC Ontario Waste Management Corporation

Consultant:

M Marshall Macklin Monaghan Limited

L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Existing Land Use

- Residential Use
- Commercial Use
- Industrial Use
- Notation

Land Ownership

- Property Boundary
- Publicly Held Land
- Saville's Used Cars



Key Map: **LF-1b East**

Lots 5, 6 and 7; Concessions II and III;
City of Niagara Falls; formerly in the
Township of Crowland



Sources

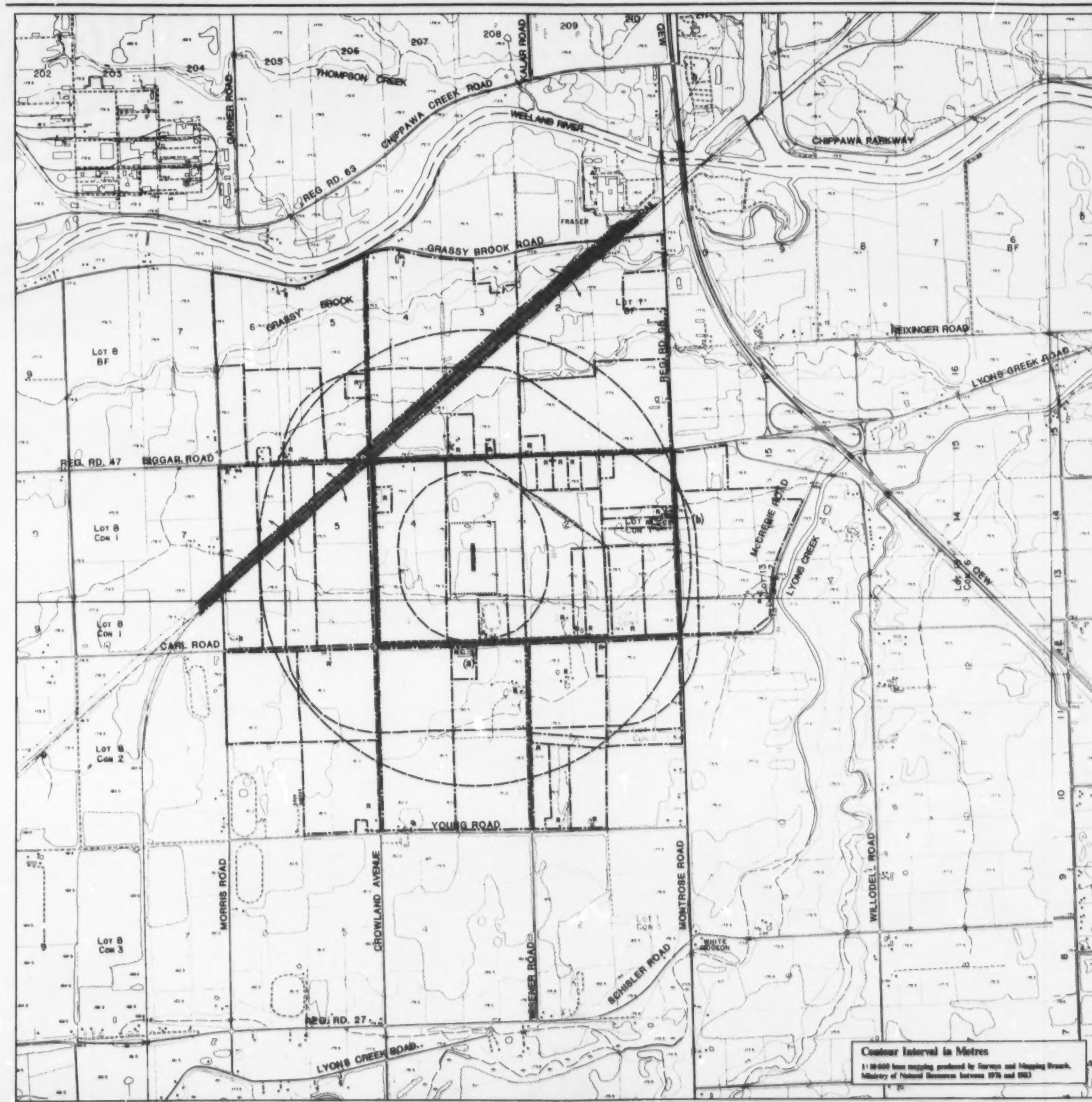
Property boundary information derived from the
Assessment Rolls, Ministry of Revenue
(June 1984)



Existing Land Use and
Land Ownership
**CANDIDATE SITE
IDENTIFICATION**

October 1984

MAP K-34



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Existing Land Use
 * Residential Use
 [Symbol] Commercial Use
 [Symbol] Industrial Use
 (a) Notation

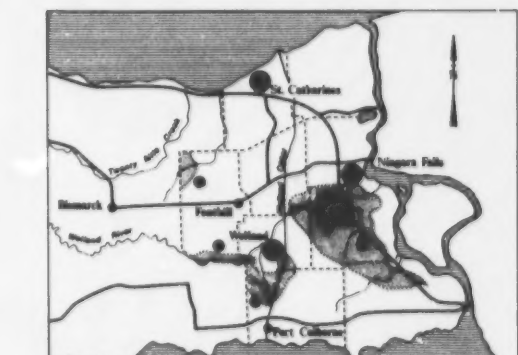
Land Ownership
 --- Property Boundary
 [Symbol] Publicly Held Lands

(a) Small Repair Service
 (b) Canine Education Centre



Key Map: LF-3 East

Lots 1, 2, 3 and 4; Concession 1; City of Niagara Falls, for Property Township of Crowland

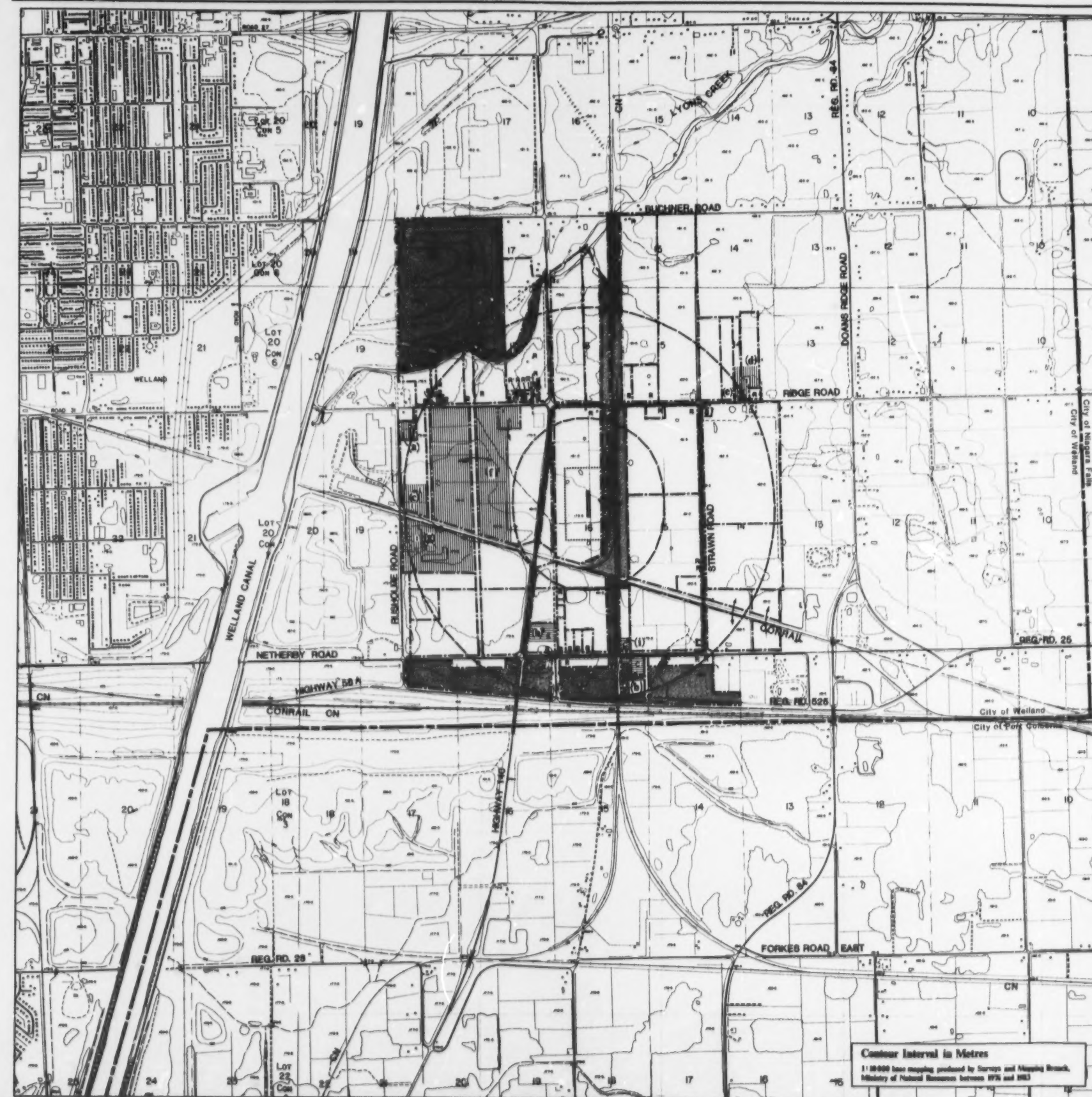


Sources
 Property boundary information derived from the City of Niagara Falls Assessment Maps 1976. This information is not necessarily current and should not be accepted as conclusive to title or the extent of title to these lands.



Existing Land Use and Land Ownership
CANDIDATE SITE IDENTIFICATION

October 1984 **MAP K-35**



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Moneghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Existing Land Use

- Residential Use
- Commercial Use
- Industrial Use
- (a) Notation

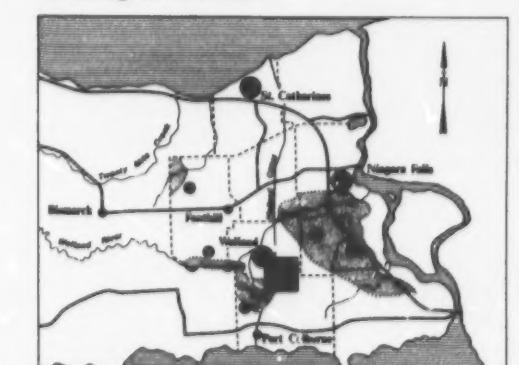
Land Ownership

- Property Boundary
- Publicly Held Lands

- (a) Falconer Scrap Metal
- (b) Seaway Salvage
- (c) Trans Canada Marine Ltd.
- (d) Hydrel Engineering Ltd.
- (e) Marr and Costello Machine Works Ltd.
- (f) Shaw Pipe Protection
- (g) Cleveland Cae Metal Abrasive Ltd.
- (h) Body Shop
- (i) Seaway Used Cars



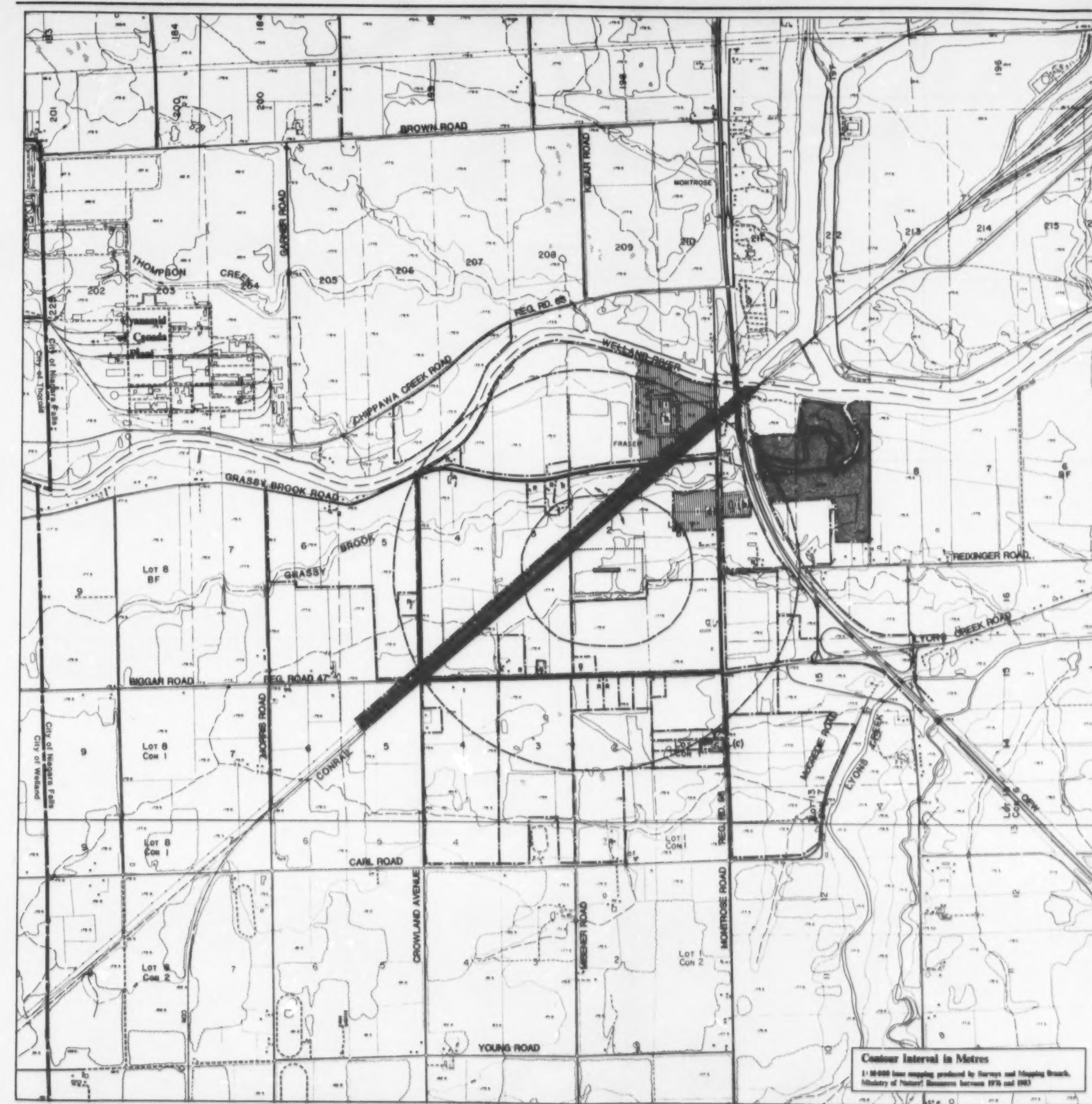
Key Map: **PI-18 East**
 Lots 15, 16 and Part of Lot 17; Concession VII; City of Welland, formerly in the Township of Crowland



Sources
 Property boundary information derived from the City of Welland Assessment Map 1976
 This information is not necessarily current and should not be accepted as conclusive to title or the extent of title to these lands.



Existing Land Use and Land Ownership
CANDIDATE SITE IDENTIFICATION



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

- Existing Land Use**
- Residential Use
 - ▨ Commercial Use
 - ▨ Industrial Use
 - (a) Notation

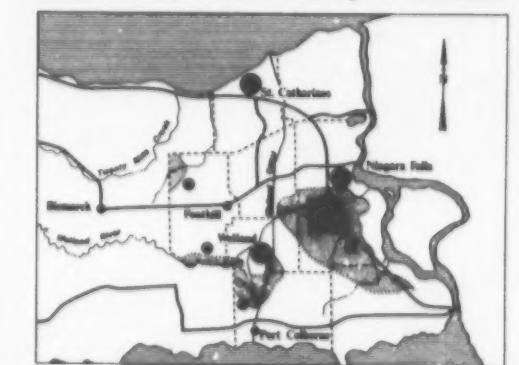
Land Ownership

- Property Boundary
- Publicly Held Lands
- (a) Ford Glass Plant
- (b) Trucking Terminal
- (c) Canine Education Centre
- (d) 10220 sq. m. Industrial Building

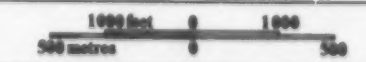


Key Map: PI - 27 East

Part of Lots 1, 2, 3, and 4; Broken Front Concession Welland River; City of Niagara Falls; formerly in the Township of Crowland



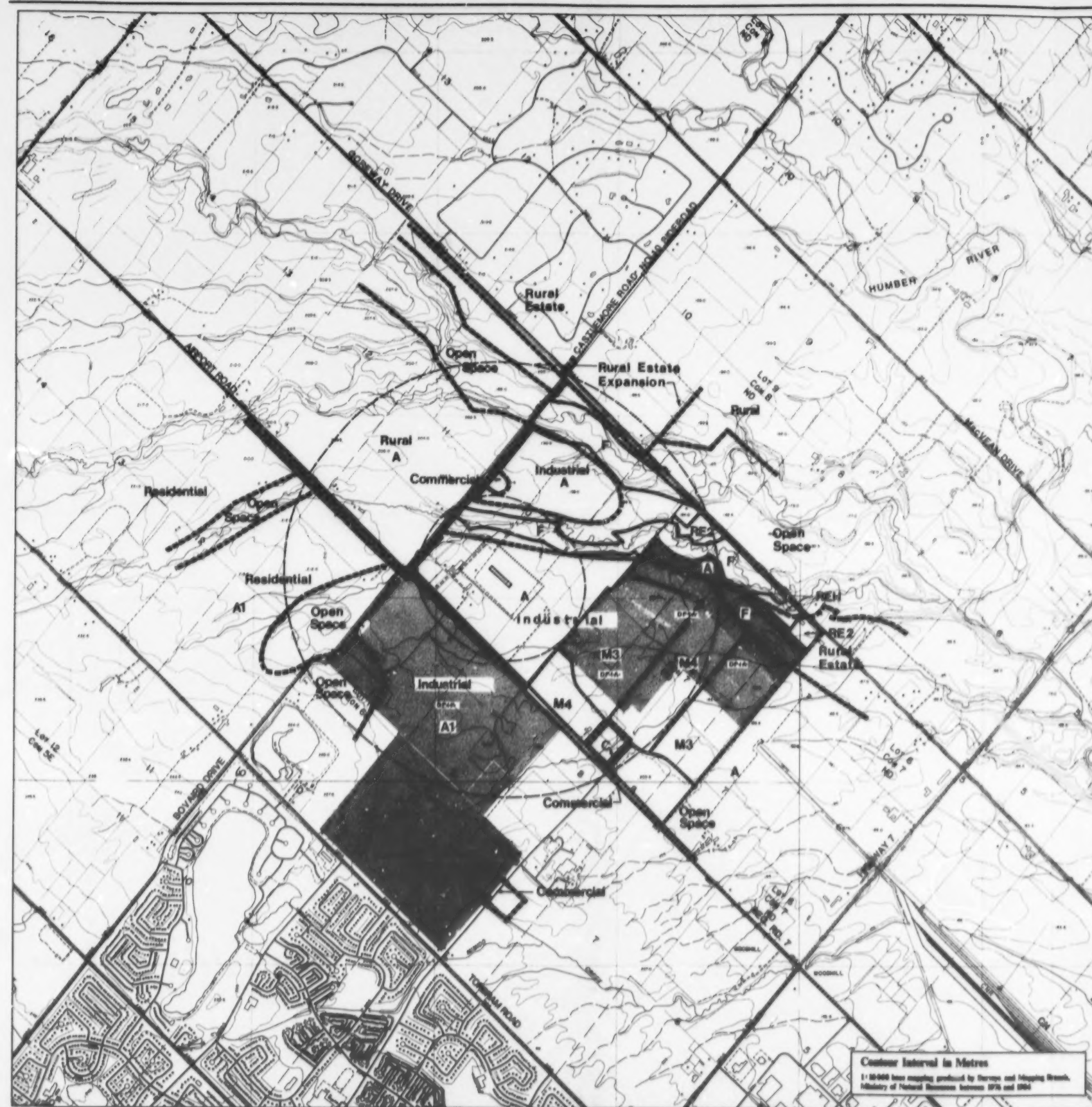
Sources
 Property boundary information derived from the Assessment Rolls, Ministry of Revenue (June 1984)



Existing Land Use and Land Ownership
CANDIDATE SITE IDENTIFICATION

October 1984 **MAP K-37**

Contour Interval in Metres
 1:10,000 base mapping produced by Harveys and Mapping Branch, Ministry of Natural Resources between 1976 and 1983



OWMC Ontario Waste Management Corporation

Consultant:
 Marshall Macklin Monaghan Limited
 LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Area Municipality Official Plan	
Designation Boundary	
Zoning By-Law	
Zoning Boundary	
Development Applications	
Type	
Draft Plan of Subdivision	
Official Plan Amendment	
Zoning Amendment	
Land Use Proposed	
Residential	
Industrial	
Commercial	
Status	
Approved	
Pending	
Zoning Categories	
A Agricultural	
A1 Agricultural A1	
F Flood	
M3 Industrial M3	
M4 Industrial M4	
C Commercial	
RE2 Residential Estate RE2	
REH Residential Estate Holding	

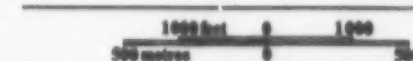


Key Map: PI-1A1

Lot 10 and Part of Lot 9; Concession VII; City of Brampton, formerly the Toronto Gore

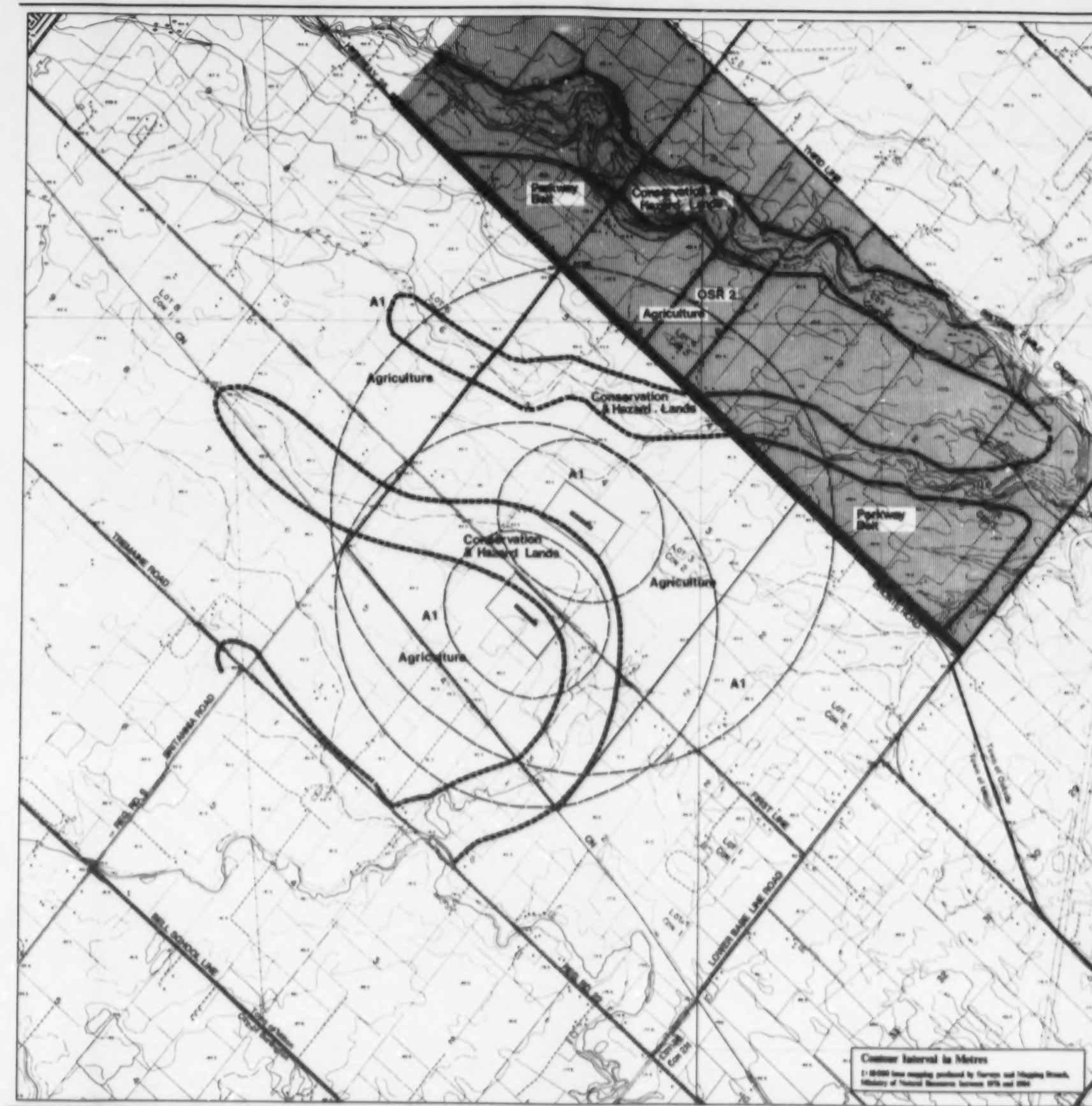


Sources
 See 'Appendix E' in report.



Planning Status
CANDIDATE SITE IDENTIFICATION

October 1984 **MAP K38**



OWMC Ontario Waste Management Corporation

Consultant: Marshall Macklin Monaghan Limited

LEON KENTIDGE ASSOCIATES LTD.

Legend:

Area Municipality Official Plan

Designation Boundary

Zoning By-Law

Zoning Boundary

Development Applications

Draft Plan of Subdivision

Official Plan Amendment

Zoning Amendment

Land Use Proposed

Residential

Industrial

Commercial

Status

Approved

Zoning Categories

A1 Agricultural A1

OSR 2 Open Space Rural 2

Parkway Belt

Limit of Planning Area

General Complementary Use

Special Complementary Use

Public Open Space & Buffer Area



Key Map:

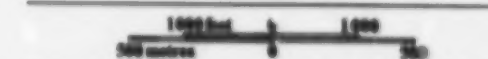
PI-1 North

Lots 3, 4 and 5; Concession II; Town of Milton; Parts of Lots 3, 4 and 5; Concession I; Town of Milton, formerly in the Township of Trafalgar



Sources

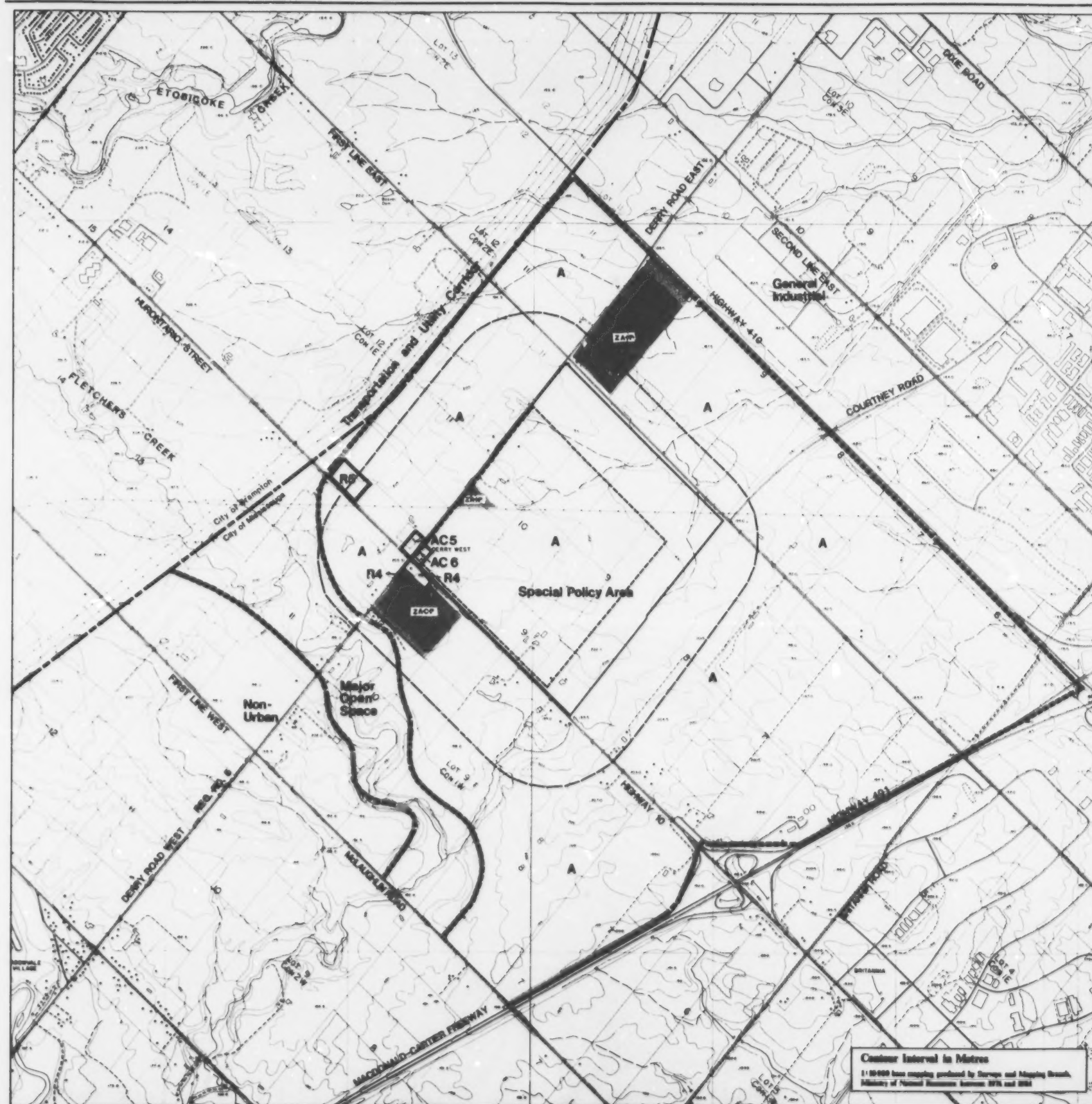
Revised July 1984 - in accordance with June, 1984 Town of Milton draft Official Plan.
See 'Appendix E' in report.



Planning Status CANDIDATE SITE IDENTIFICATION

October 1984

MAP K-39



OWMC Ontario Waste Management Corporation

Consultant:
 Marshall Macklin Monaghan Limited
 LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Area Municipality Official Plan

Designation Boundary

Zoning By-Law

Zoning Boundary

Development Applications

Type

Draft Plan of Subdivision

Official Plan Amendment

Zoning Amendment

Land Use Proposed

Residential

Industrial

Commercial

Status

Approved

Pending

LIMIT OF LANDFILL

not to scale

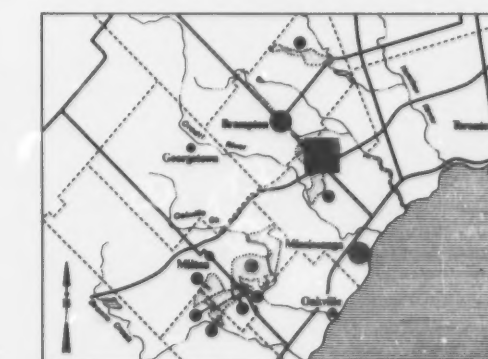
MAXIMUM POTENTIAL ACQUISITION BOUNDARY

500 metres STUDY AREA

Key Map:

LF-2 North

Lots 9 and 10; Concession I EHS (East of Hurontario Street), City of Mississauga



Sources

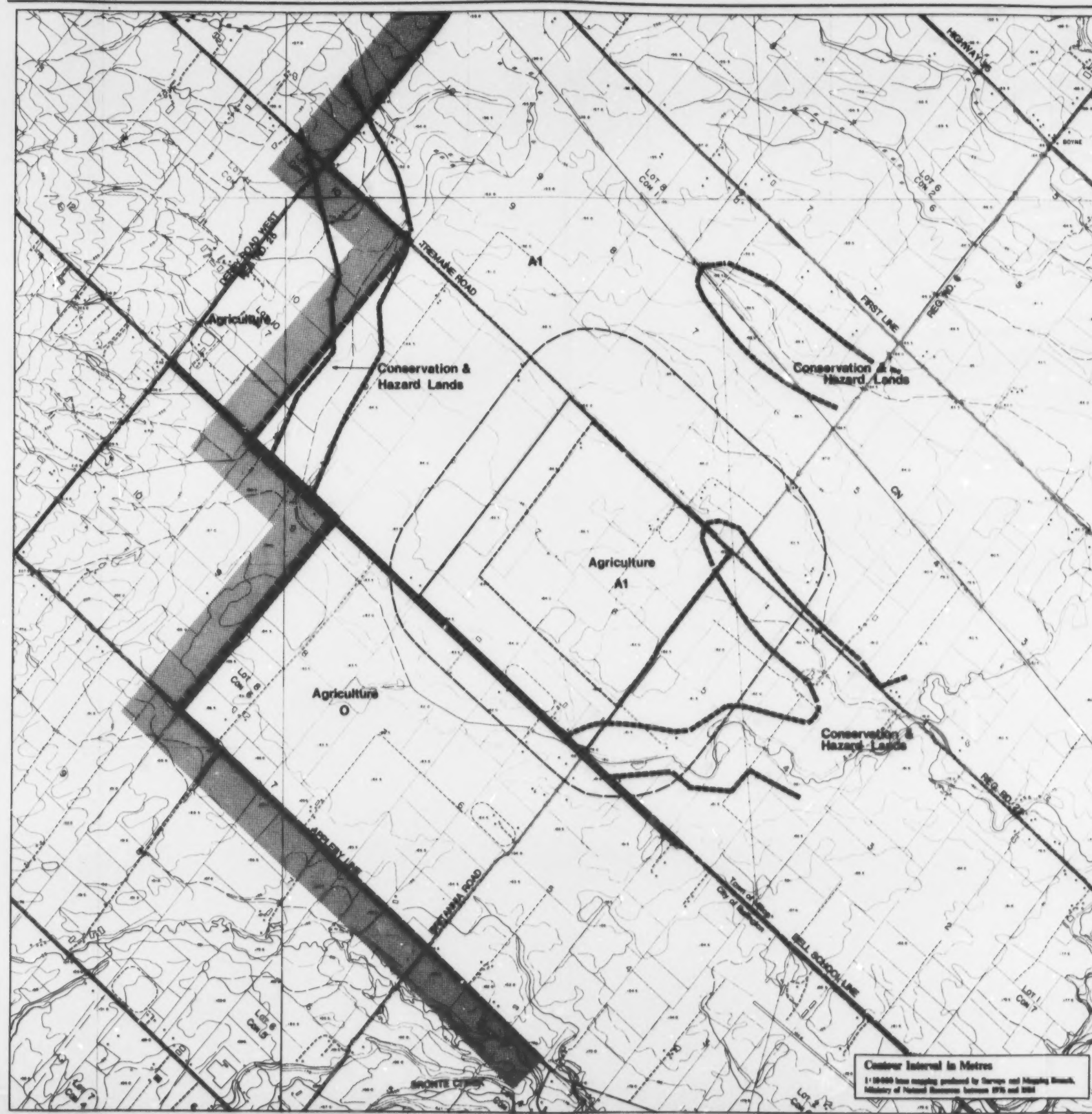
See 'Appendix E' in report.



Planning Status
CANDIDATE SITE IDENTIFICATION

October 1984

MAP K-40



OWMC Ontario Waste Management Corporation

Consultant:
 Marshall Mecklin Monaghan Limited
 LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Area Municipality Official Plan
 Designation Boundary

Zoning By-Law
 Zoning Boundary

Development Applications
 Type
 Draft Plan of Subdivision
 Official Plan Amendment
 Zoning Amendment
 Land Use Proposed
 Residential
 Industrial
 Commercial
 Status
 Approved
 Pending

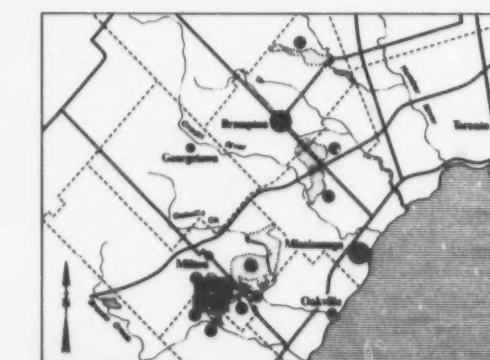
Zoning Categories
 A1 Agricultural A1
 O Conservation
 Niagara Escarpment Commission
 Limit of Control Area
 Escarpment Rural Area

LAND USE DESIGNATION
 not to scale

MAXIMUM POTENTIAL
 ESCARPMENT
 BOUNDARY
 500 m S.W. 1/4 1/4

Key Map: LF- 4 North

Lots 6 and 7; Concession VII; Town of Milton, formerly in the Township of Nelson



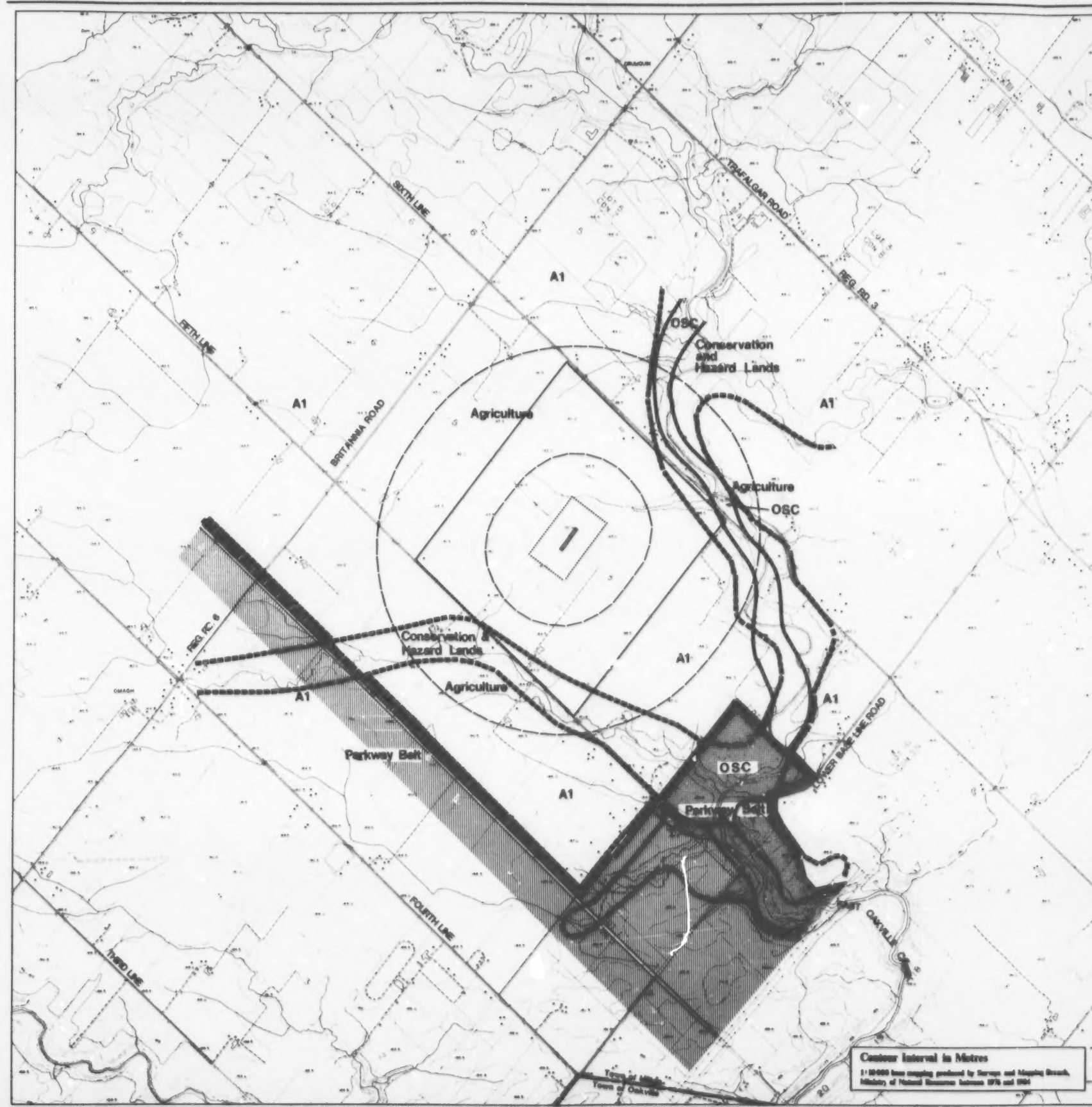
Sources
 Revised July 1984 - in accordance with June, 1984 Town of Milton draft Official Plan.
 See 'Appendix E' in report.

1000 feet
 500 metres

Planning Status
CANDIDATE SITE IDENTIFICATION

October 1984

MAP K-41



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Area Municipality Official Plan	
-----	Designation Boundary
Zoning By-Law	
A	Zoning Boundary
Development Applications	
Type	
D.R.	Draft Plan of Subdivision
O.P.A.	Official Plan Amendment
Z.A.	Zoning Amendment
Land Use Proposed	
R	Residential
I	Industrial
C	Commercial
Status	
A	Approved
P	Pending
Zoning Categories	
A1	Agricultural A1
OSC	Open Space Conservation
Parkway Belt	
-----	Limit of Planning Area
-----	Public Open Space & Buffer Area
-----	General Complementary Use Area
-----	Road (Dorval Way)



Key Map: **PI-13 North**

Lots 3 and 4; Concession VI; Town of Milton, formerly the Township of Trafalgar

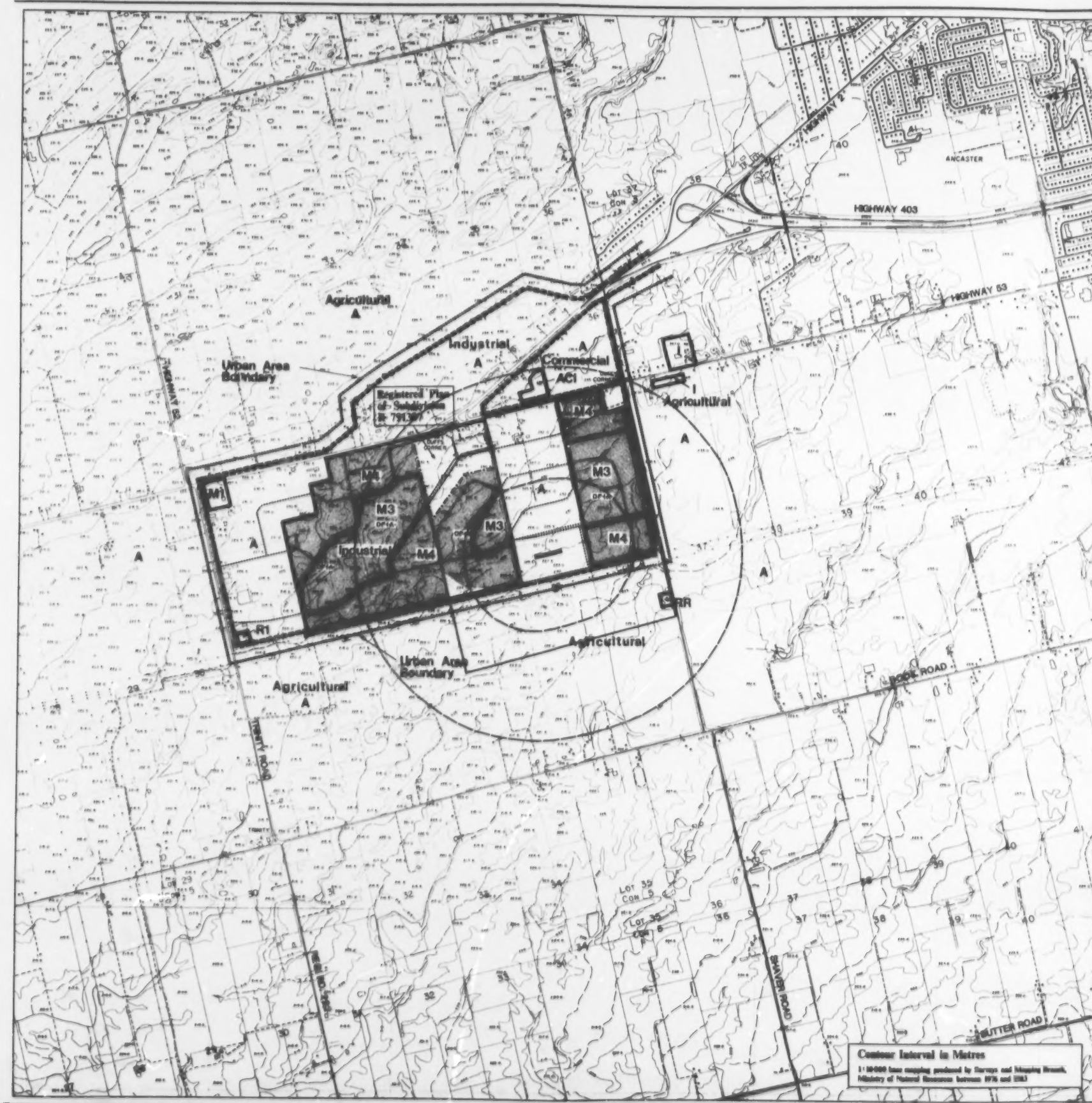


Sources
 Revised July 1984 - in accordance with June 1984 Town of Milton Draft Official Plan.
 See 'Appendix E' in report.



Planning Status
CANDIDATE SITE IDENTIFICATION

October 1984 **MAP K-42**



OWMC Ontario
Waste Management
Corporation

Consultant:

M Marshall Macklin Monaghan Limited

L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Area Municipality Official Plan

Designation Boundary

Zoning By-Law

Zoning Boundary

Development Applications

Draft Plan of Subdivision

Official Plan Amendment

Zoning Amendment

Land Use Proposed

Residential

Industrial

Commercial

Status

Approved

Pending

Zoning Categories

A Agricultural

M1 Industrial M1

M3 Industrial M3

M4 Industrial M4

AC1 Agricultural

R1 Residential

RR Rural Residential

Approved Road

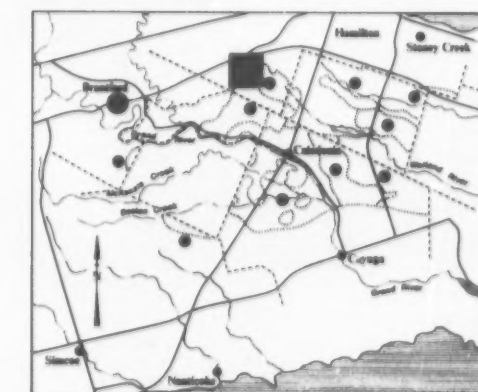
Pattern for Industrial Park



Key Map: **PI-2 West**

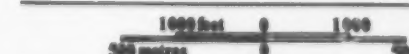
Part of Lots 34, 35 and 36; Concession IV;

Town of Ancaster



Sources

See 'Appendix E' in report.



Planning Status
**CANDIDATE SITE
IDENTIFICATION**

October 1984

MAP K-43



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Area Municipality Official Plan
 Designation Boundary

Zoning By-Law
A Zoning Boundary
 Development Applications
 Type
 Draft Plan of Subdivision
 Official Plan Amendment
 Zoning Amendment
 Land Use Proposed
 Residential
 Industrial
 Commercial
 Status
 Approved Pending

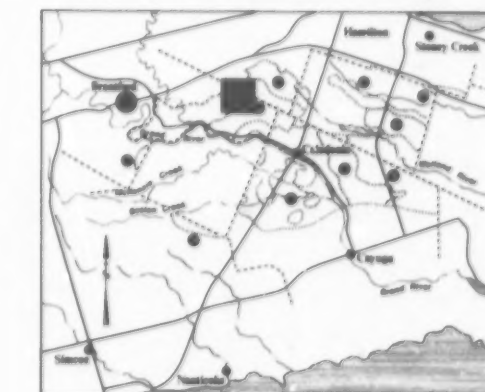
Zoning Categories
 A Agricultural
 I Institutional
 O-3 Open Space O3

Land Use Proposed
 Residential
 Industrial
 Commercial

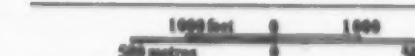
Status
 Approved Pending

OPERATING AREA
 ASSESSMENT AREA
 EVOLUTION AREA
 LIMIT OF LAND USE
 POTENTIAL
 STUDY AREA

Key Map: LF-10a West
 Lots 16, 17 and Part of Lots 15 and 18;
 Concession 1; Township of Onondaga



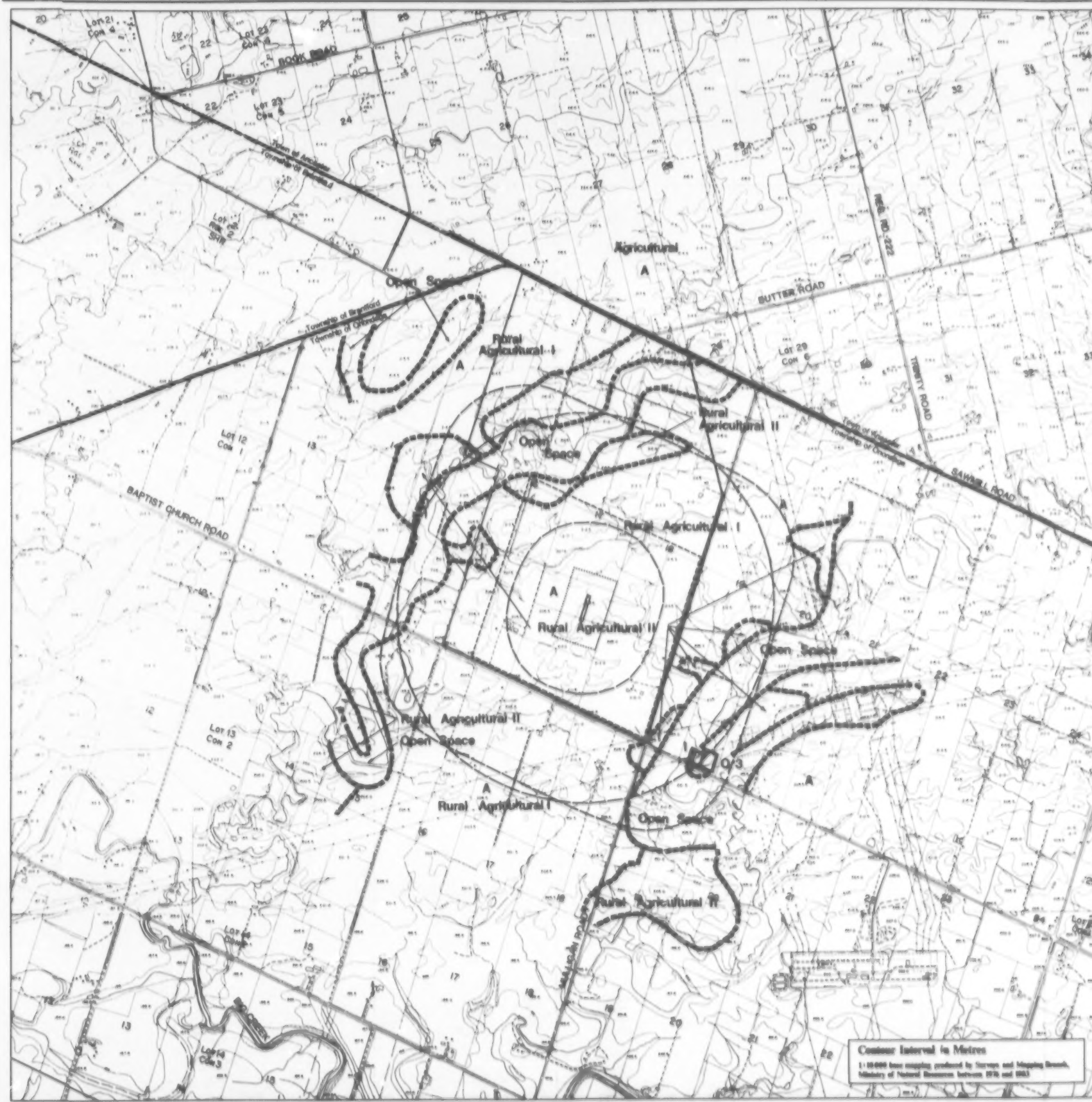
Sources
 See 'Appendix E' in report



Planning Status
CANDIDATE SITE
IDENTIFICATION

October 1984

MAP K-44



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Area Municipality Official Plan

Designation Boundary

Zoning By-Law

Zoning Boundary

Development Applications

Draft Plan of Subdivision

Official Plan Amendment

Zoning Amendment

Land Use Proposed

Residential

Industrial

Commercial

Status

Approved

Zoning Categories

A Agricultural

I Institutional

O-3 Open Space O-3



Key Map: LF-10b West

Lots 16, 17 and Part of Lots 15 and 18;

Concession 1; Township of Onondaga



Sources

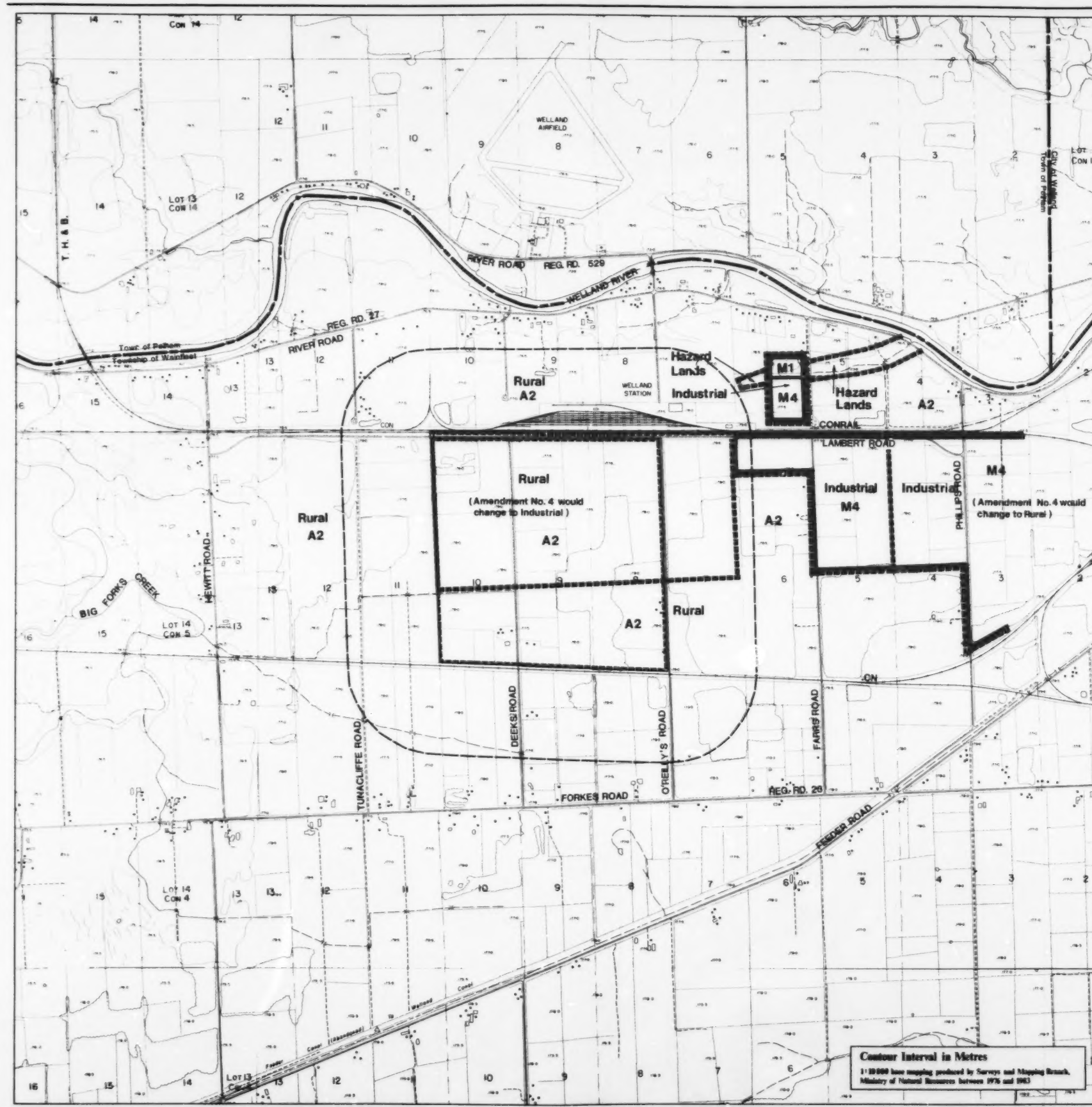
See 'Appendix E' in report.



Planning Status
CANDIDATE SITE
IDENTIFICATION

October 1984

MAP K-45



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Area Municipality Official Plan

Designation Boundary

Zoning By-Law

Zoning Boundary

Development Applications

Type

D.P. Draft Plan of Subdivision

O.P.A. Official Plan Amendment

Z.A. Zoning Amendment

Land Use Proposed

R Residential

I Industrial

C Commercial

Status

A Approved

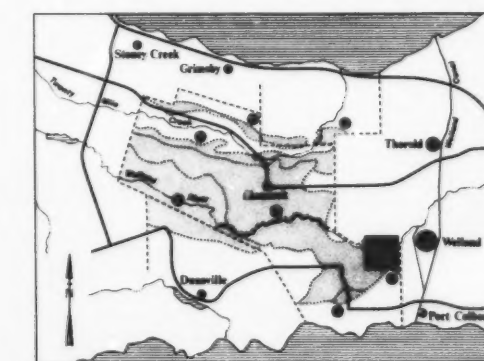
P Pending

LIMIT OF
 ACQUISITION
 not to scale
 MAXIMUM
 POTENTIAL
 ACQUISITION
 BOUNDARY
 500 m
 STUDY AREA

Key Map:

LF-1 Central

Part of Lots 8, 9, and 10; Concession V;
 Township of Wainfleet



Sources

See 'Appendix E' in report.

1000 feet
 500 metres

Planning Status
**CANDIDATE SITE
 IDENTIFICATION**

October 1984

MAP K-47



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

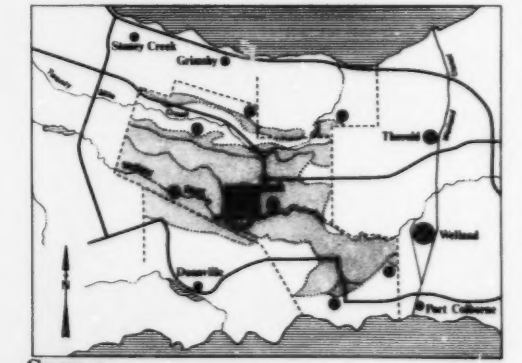
Legend:

- Area Municipality Official Plan**
 ----- Designation Boundary
- Zoning By-Law** **Zoning Categories**
 [A] Zoning Boundary A2 Agricultural
- Development Applications**
 Type
 [D.P.] Draft Plan of Subdivision
 [O.P.A.] Official Plan Amendment
 [Z.A.] Zoning Amendment
 Land Use Proposed
 [R] Residential
 [I] Industrial
 [C] Commercial
 Status
 [A] Approved [P] Pending



Key Map: LF-3Central

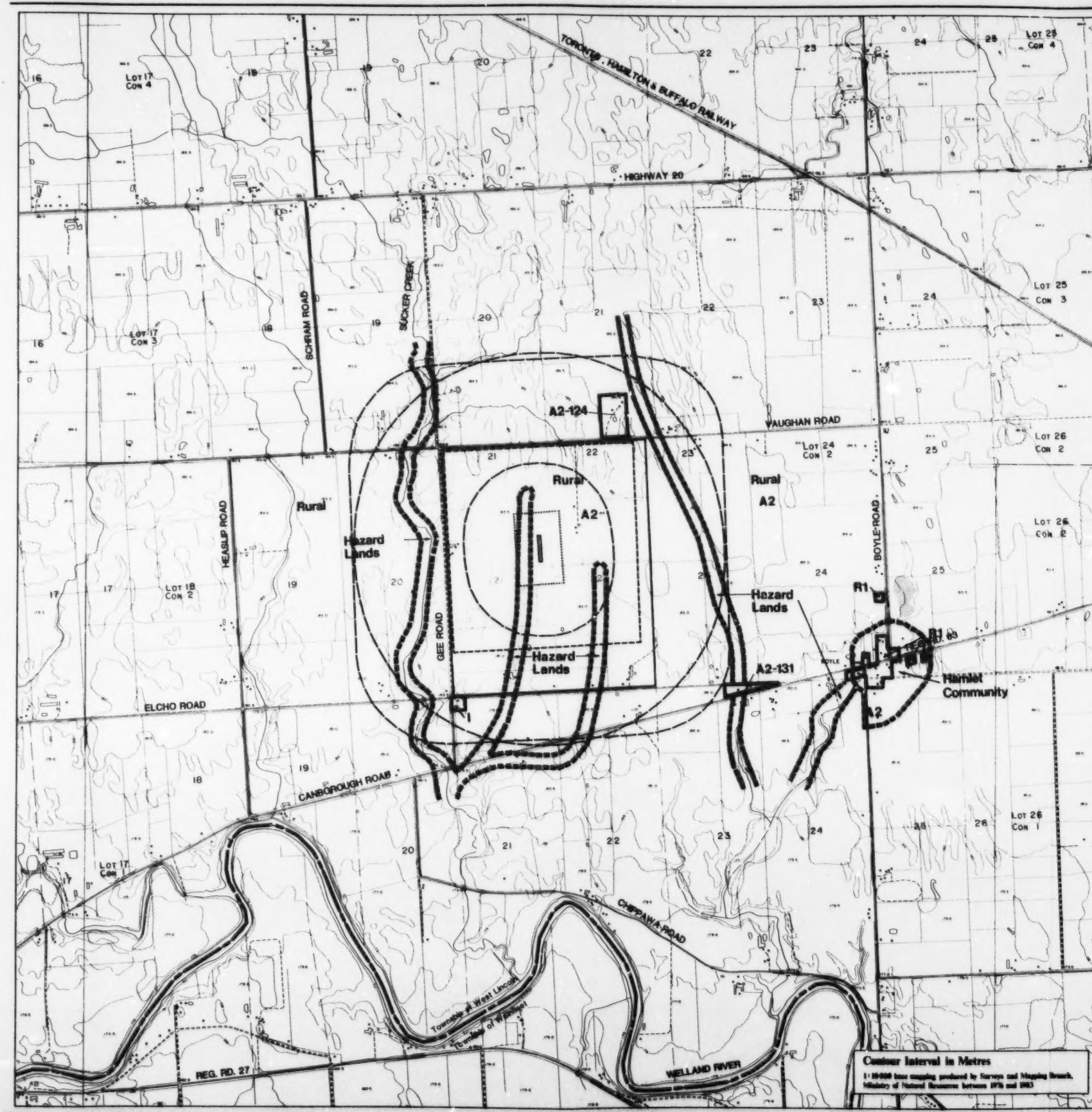
Lots 5, 6 and 7; Concession 1; Part of Lot 7; Broken Front Concession; Township of West Lincoln; formerly in the Township of Gainsborough



Sources
 See 'Appendix E' in report



Planning Status
CANDIDATE SITE IDENTIFICATION



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

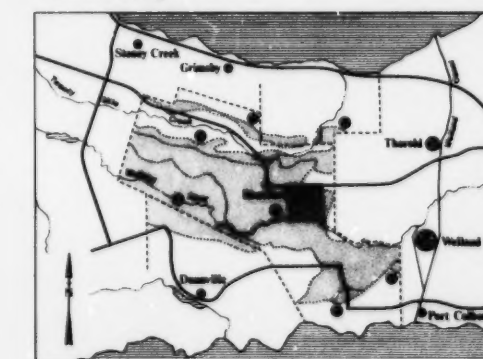
Legend:

Area Municipality Official Plan	
Designation Boundary	
Zoning By-Law	
Zoning Boundary	Zoning Categories
Development Applications	A2 Agricultural A2
Type	R1 Residential R1
	I Institutional
DP Draft Plan of Subdivision	
OPA Official Plan Amendment	
ZA Zoning Amendment	
Land Use Proposed	
R Residential	
I Industrial	
C Commercial	
Status	
A Approved	P Pending



Key Map: LF-8 Central

Lots 21 and 22; Concession II; Township of West Lincoln; formerly in the Township of Gainsborough



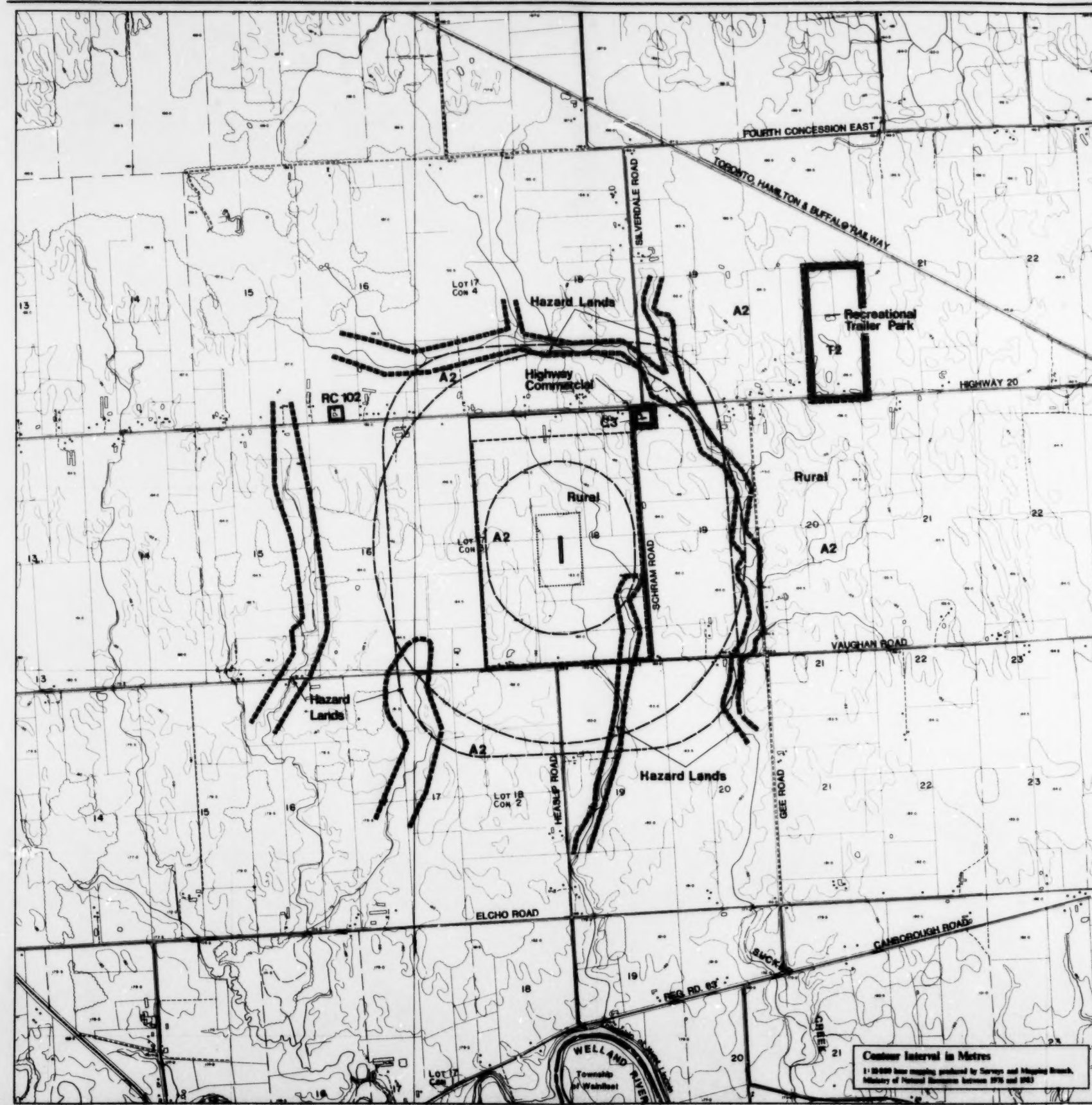
Sources
 See 'Appendix E' in report.



Planning Status CANDIDATE SITE IDENTIFICATION

October 1984

MAP K-49



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Area Municipality Official Plan

Designation Boundary

Zoning By-Law

A Zoning Boundary

Development Applications

Type

D.R. Draft Plan of Subdivision

O.P.A. Official Plan Amendment

Z.A. Zoning Amendment

Land Use Proposed

R Residential

I Industrial

C Commercial

Status

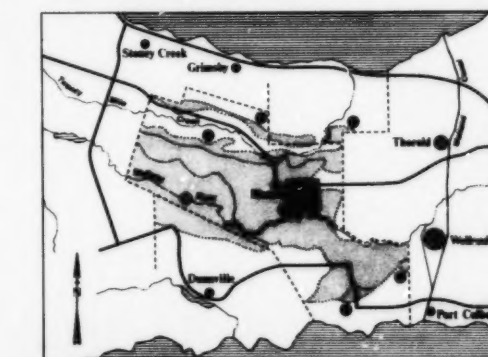
A Approved

P Pending



Key Map: LF-9 Central

Lot 18 and Part of Lot 17; Concession III;
 Township of West Lincoln; formerly in the
 Township of Gainsborough



Sources

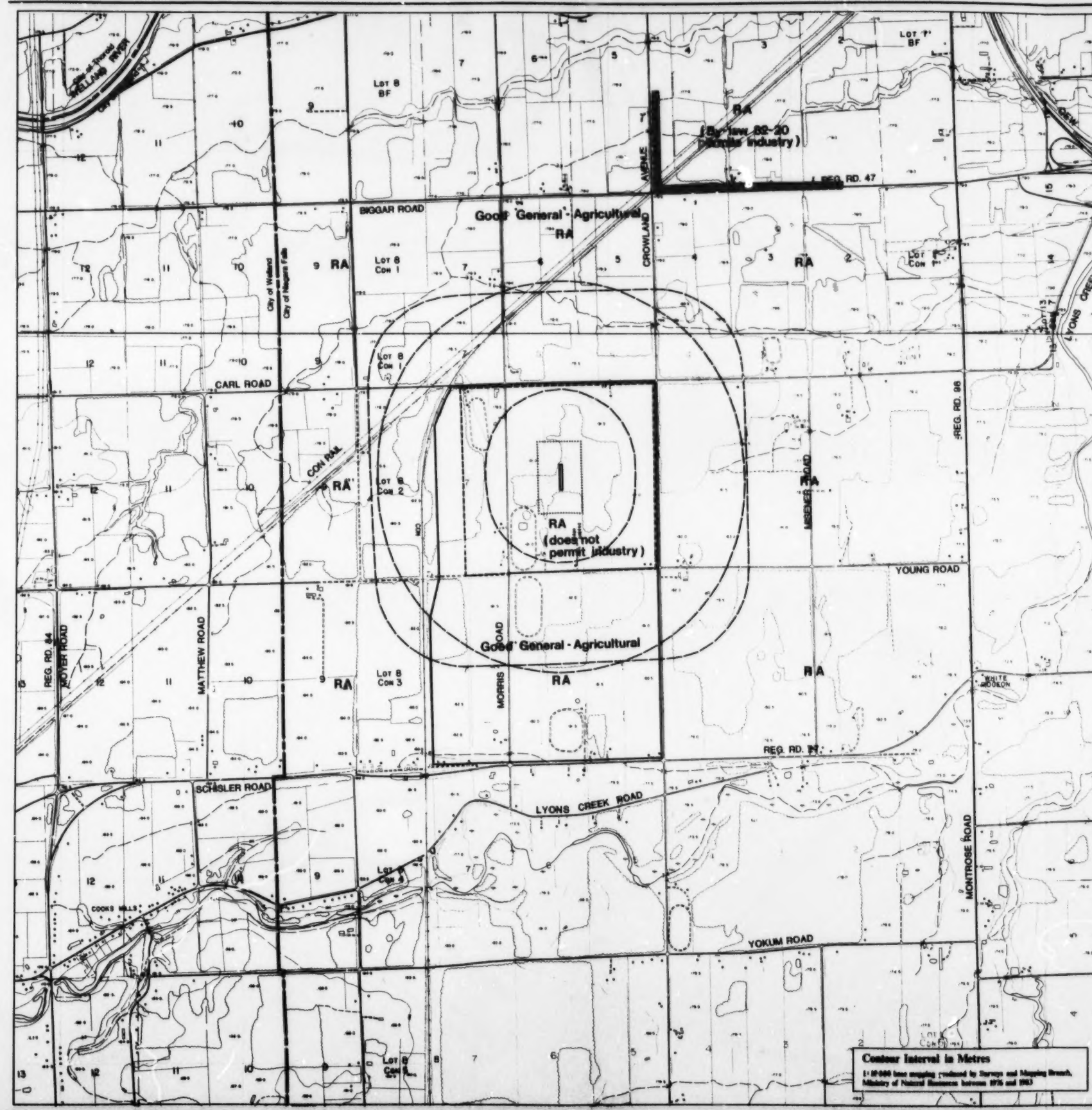
See 'Appendix E' in report



Planning Status
CANDIDATE SITE
IDENTIFICATION

October 1984

MAP K-50



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

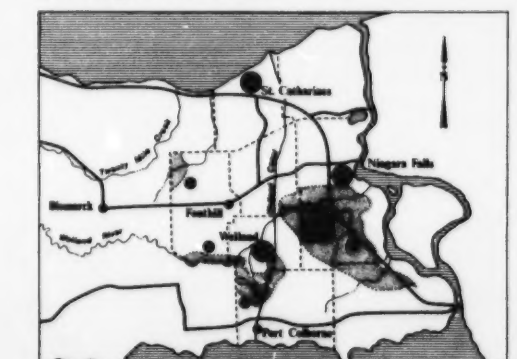
Area Municipality Official Plan
 Designation Boundary
 Zoning By-Law
 Zoning Categories
 Zoning Boundary
 RA Rural Agricultural

Development Applications
 Type
 Draft Plan of Subdivision
 Official Plan Amendment
 Zoning Amendment
 Land Use Proposed
 Residential
 Industrial
 Commercial
 Status
 Approved
 Pending

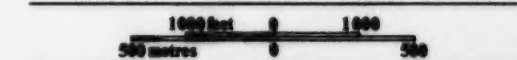


Key Map: LF-1a East

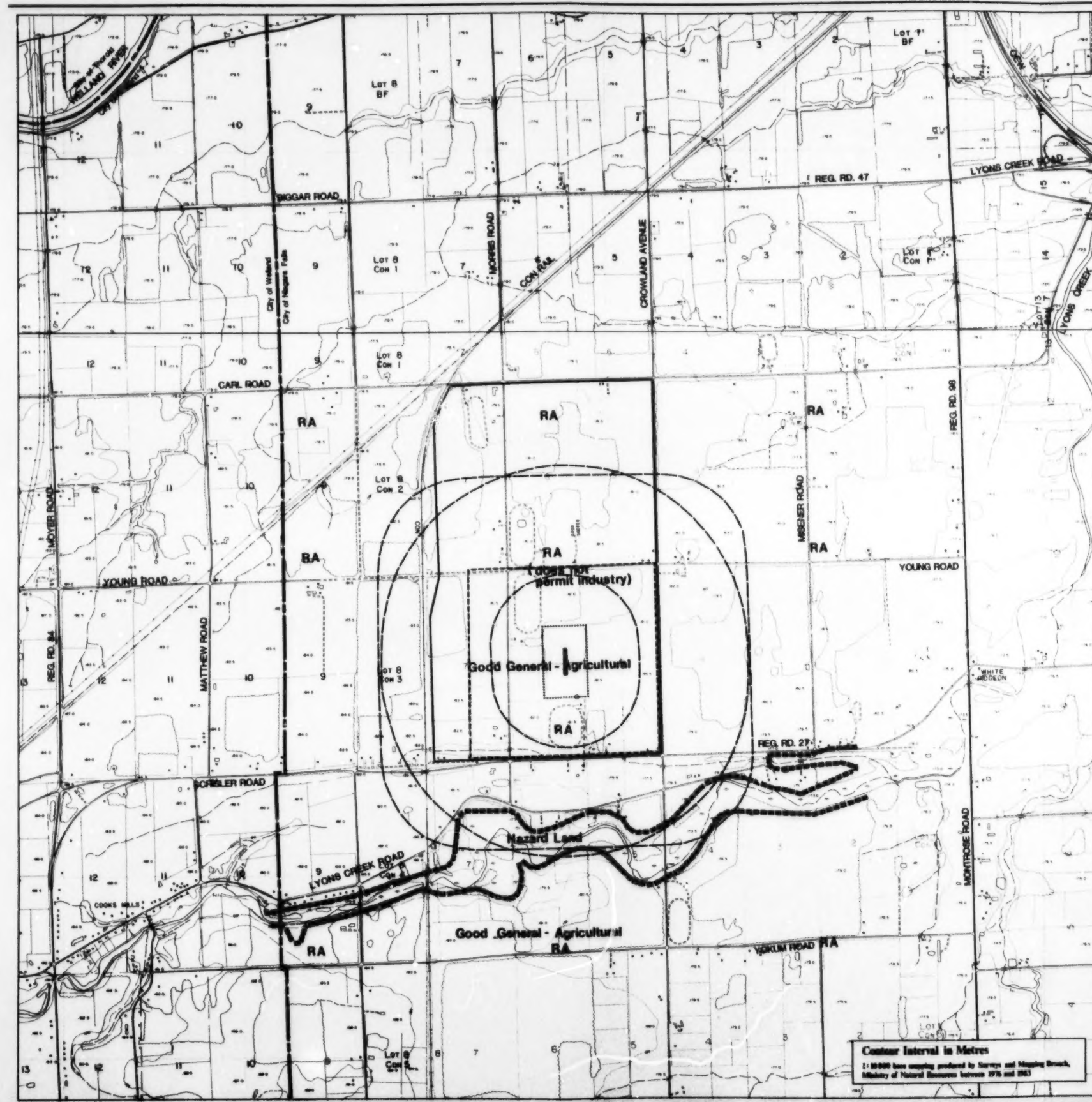
Lots 5, 6 and 7; Concessions II and III;
 City of Niagara Falls; formerly in the
 Township of Crowland



Sources
 See 'Appendix E' in report.



Planning Status
**CANDIDATE SITE
 IDENTIFICATION**



OWMC Ontario Waste Management Corporation

Consultant:

M Marshall Mecklin Monaghan Limited

LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Area Municipality Official Plan

Designation Boundary

Zoning By-Law

Zoning Boundary

Zoning Categories

RA Rural Agricultural

Development Applications

Type

DR Draft Plan of Subdivision

OPA Official Plan Amendment

ZA Zoning Amendment

Land Use Proposed

R Residential

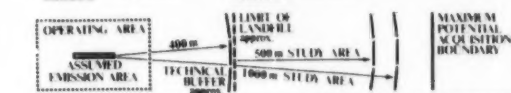
I Industrial

C Commercial

Status

A Approved

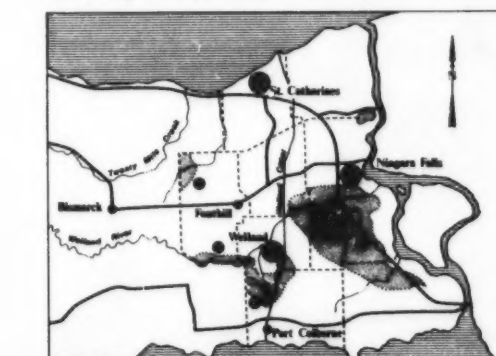
P Pending



Key Map:

LF-1b East

Lots 5, 6 and 7; Concessions II and III;
City of Niagara Falls; formerly in the
Township of Crowland



Sources

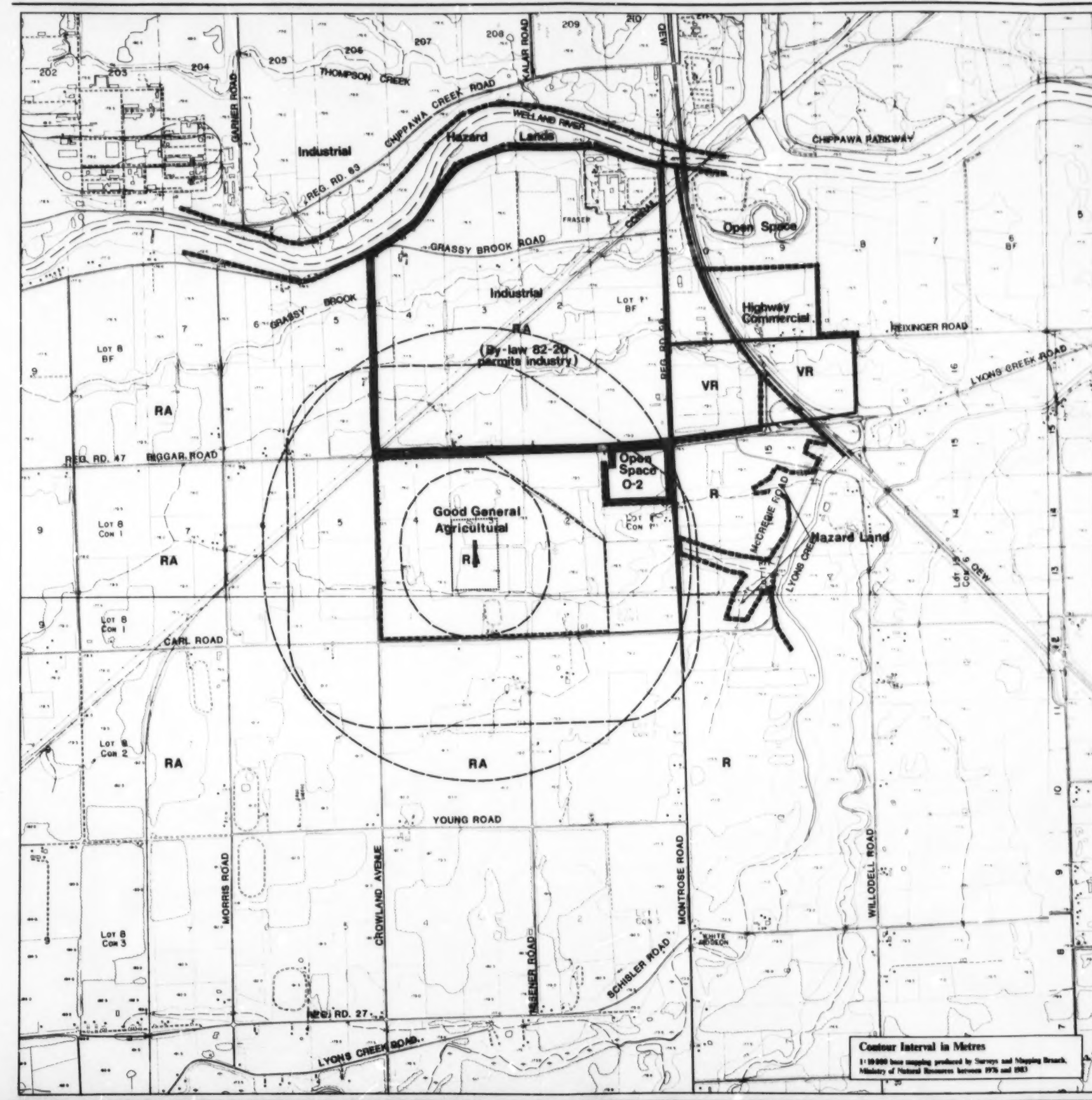
See 'Appendix E' in report.



Planning Status
**CANDIDATE SITE
IDENTIFICATION**

October 1984

MAP K-52



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Are: Municipality Official Plan

Designation Boundary

Zoning By-Law

A Zoning Boundary

Development Applications

Draft

DP Draft Plan of Subdivision

OPA Official Plan Amendment

ZA Zoning Amendment

Land Use Proposed

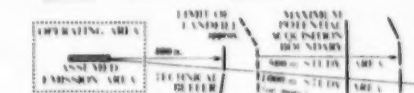
R Residential

I Industrial

C Commercial

Status

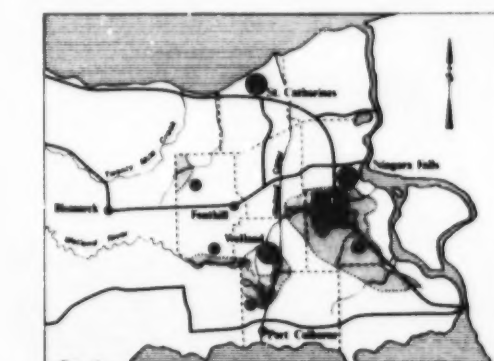
A Approved **P** Pending



Key Map:

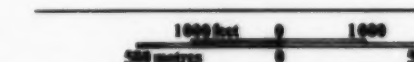
LF-3 East

Lots 1, 2, 3 and 4; Concession 1; City of Niagara Falls, formerly Township of Crowland



Sources

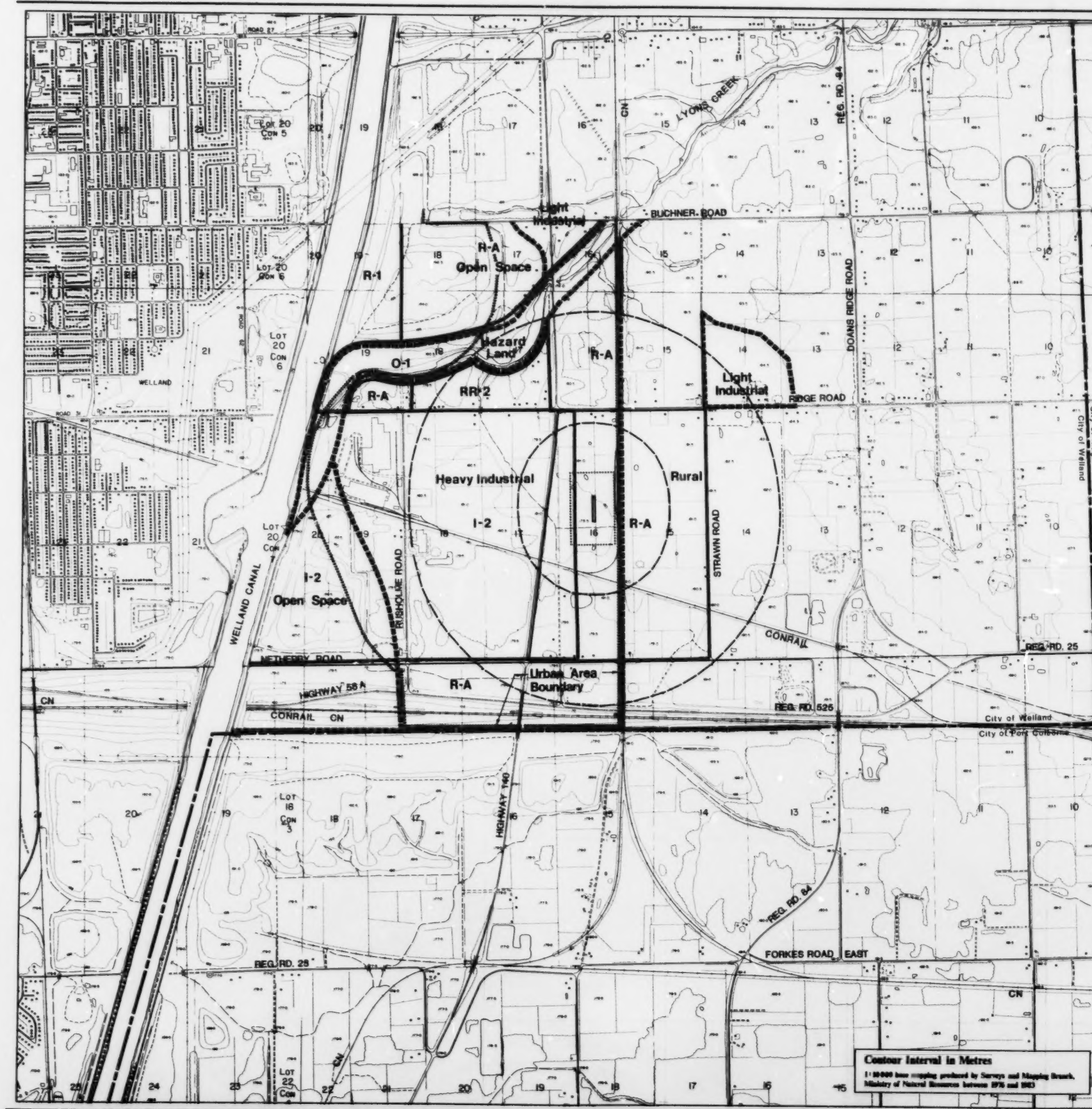
See 'Appendix E' in report.



Planning Status
CANDIDATE SITE
IDENTIFICATION

October 1984

MAP K-53

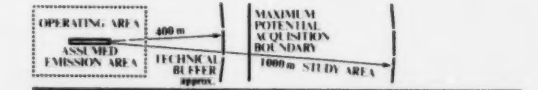


OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

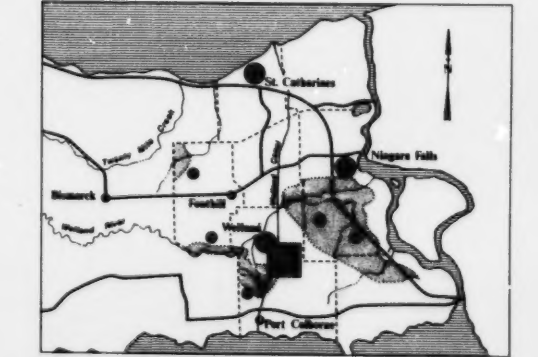
Legend:

Area Municipality Official Plan	
Designation Boundary	
Zoning By-Law	
A Zoning Boundary	Zoning Categories
Development Applications	
DP Draft Plan of Subdivision	R-A Rural Agricultural
OPA Official Plan Amendment	R-1 Residential 1
ZA Zoning Amendment	RR 2 Rural Residential 2
Land Use Proposed	O-1 Open Space Public
R Residential	I-2 Industrial Heavy
I Industrial	
C Commercial	
Status	
A Approved	P Pending



Key Map: PI-18 East

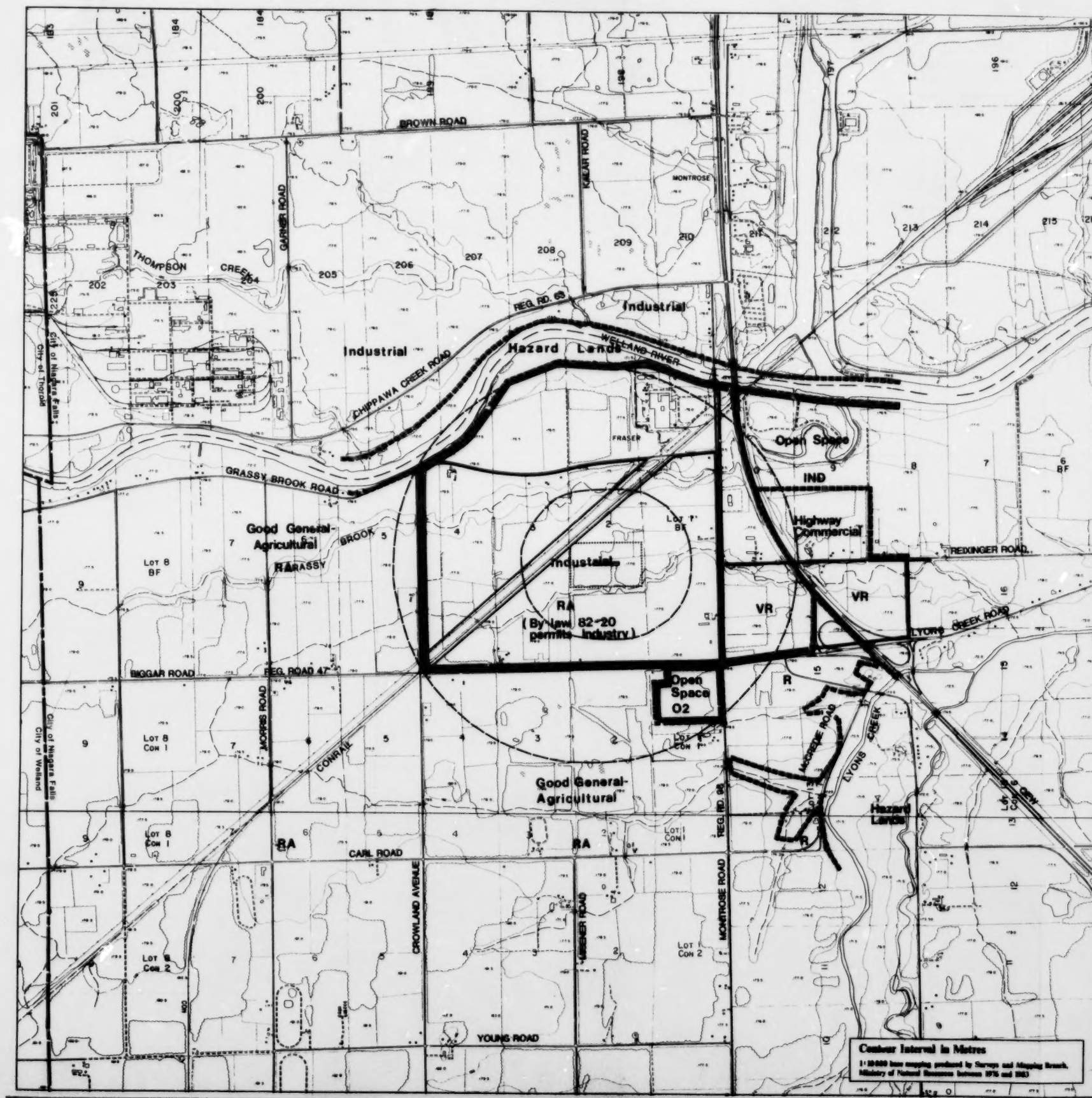
Lots 15, 16 and Part of Lot 17; Concession VII; City of Welland, formerly in the Township of Crowland



Sources
 See 'Appendix E' in report.



Planning Status
CANDIDATE SITE IDENTIFICATION



OWMC Ontario Waste Management Corporation

Consultant:
M Marshall Macklin Monaghan Limited
L LEON KENTRIDGE ASSOCIATES LTD.

Legend:

Area Municipality Official Plan

Designation Boundary

Zoning By-Law

Zoning Boundary

Development Applications

Type

Draft Plan of Subdivision

Official Plan Amendment

Zoning Amendment

Land Use Proposed

Residential

Industrial

Commercial

Status

Approved

Pending



Key Map:

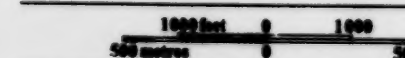
PI-27 East

Part of Lots 1, 2, 3, and 4; Broken Front Concession Welland River; City of Niagara Falls; formerly in the Township of Crowland



Sources

See 'Appendix E' in report.



Planning Status
CANDIDATE SITE
IDENTIFICATION

October 1984

MAP K-55

POOR

QUALITY

ORIGINAL